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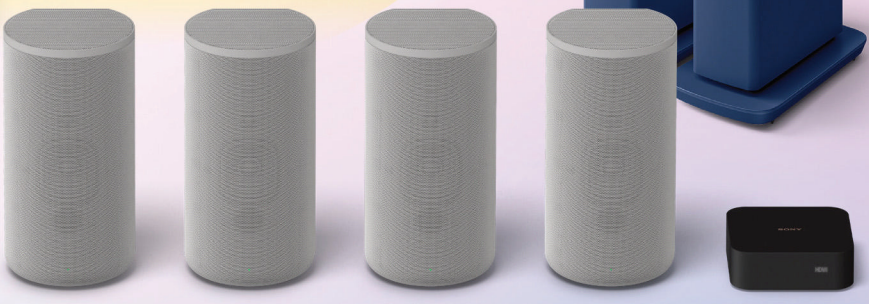

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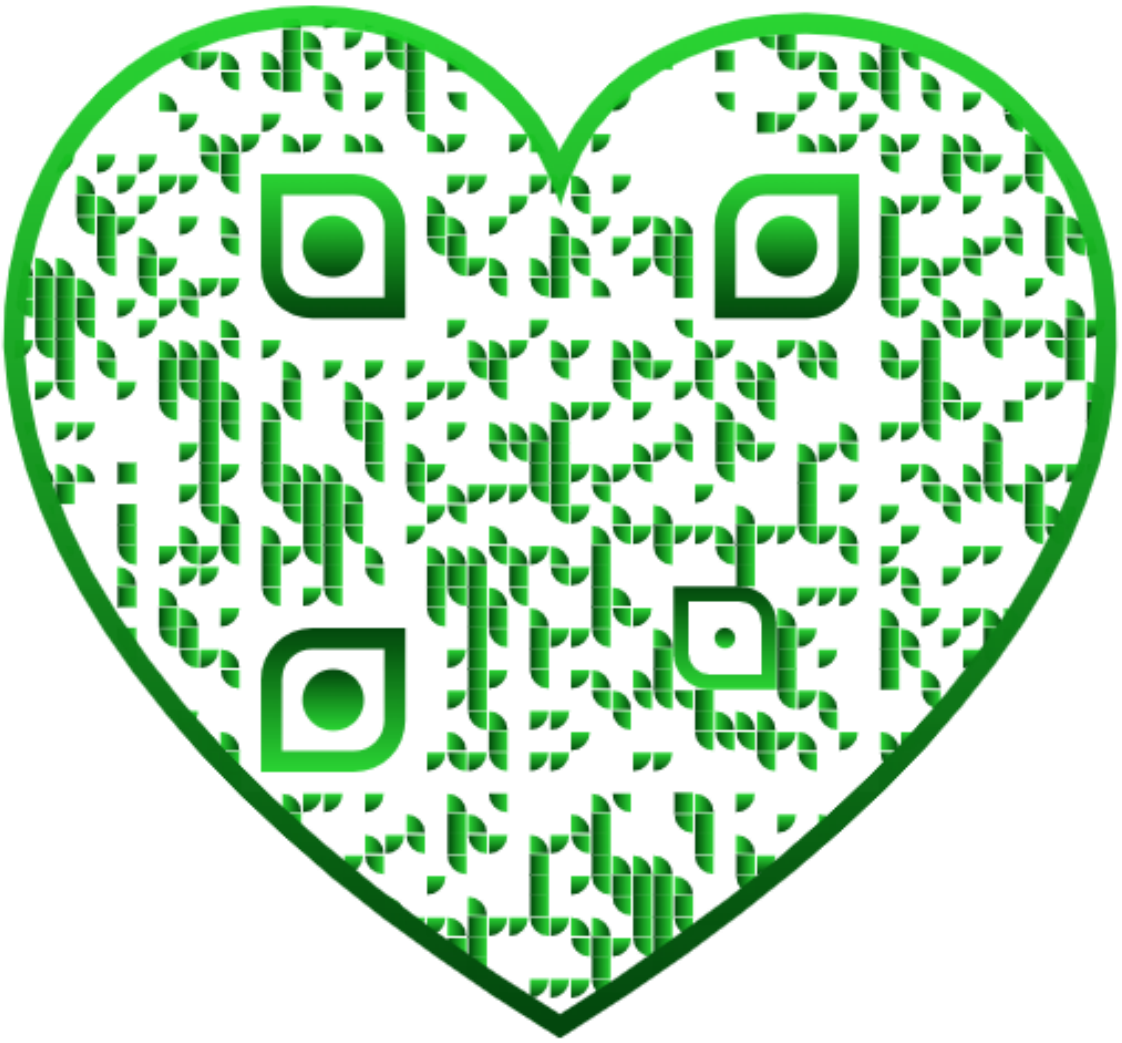

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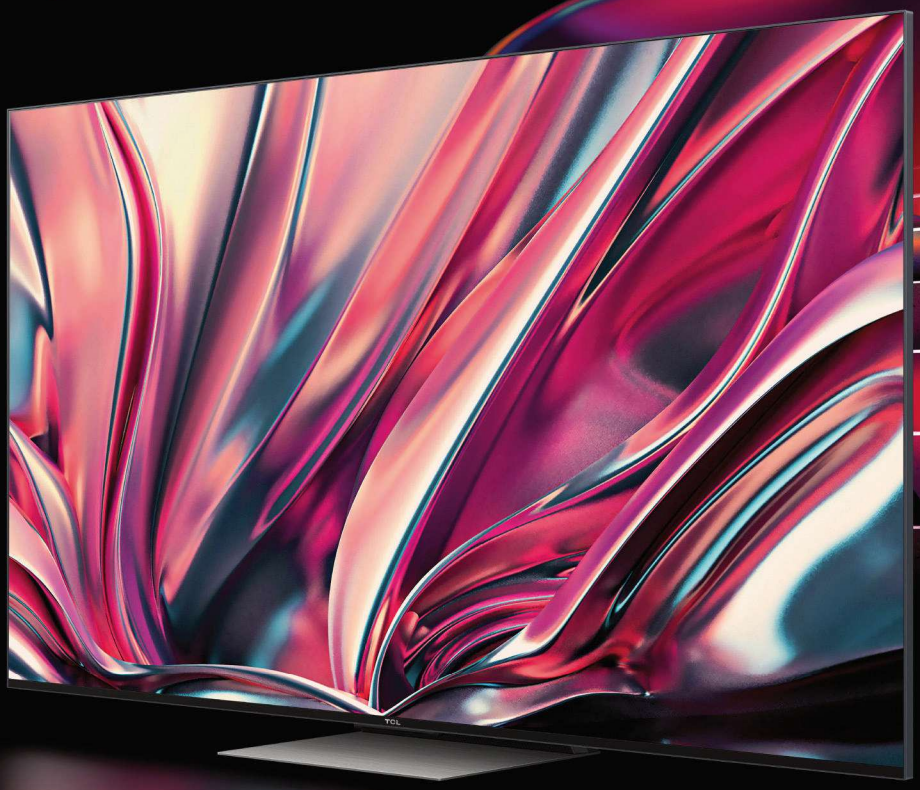

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We seek a fair-price bar with solid sound for movies & music

SOUND IMAGE+

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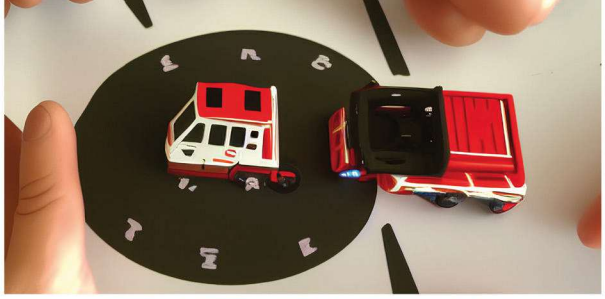

Pink Floyd songs in a bluegrass style

Now that art is smart, will music follow? Let's perhaps hope not.

EDLINES

I have been spending too much time recently creating AI art. You give it a prompt: "*three chickens on Everest*", and the program draws it in maybe 20 seconds.

Only a year or so ago, public versions of AI art were interesting, but pretty crude. By the end of 2022 the images have become brilliant, and startling. You can lengthen prompts to include details, art styles, materials, lens types. You can use your own picture as a reference, then use a prompt to turn it into something else. Example: the images above started as a Sound Burger image I took, plus various prompts. My prompt for lower left, for example, was fairly abstract: "*Just an illusion. Super detailed masterpiece art work on show in a circus.*"

These were created using the Stable Diffusion AI art engine via *playgroundai.com*. It's free, for now.

AI art does seem diametric. Artists and graphic folk tend to seethe or rage, entirely understandably. Others, like me, are blown away. I've never been able to draw, so for me it's like I've been upgraded overnight. Others just can't see the point of it: the missus, for one. She fears I'm addicted to creating stupid images, and engages with me like a five-year-old — "So what have you made? 'Kermit leads the Muppets into Mordor'? Yes, it's very nice, dear."

Sadly I can't show you 'Kermit leads the Muppets into Mordor' because clearly that crosses some line in copyright or trademarks or something. (But I can tell you the picture is *awesome*.) And this is a shadow (copyright and trademarks, not Mordor) which hangs over all of AI art. These AI programs have been trained on any number of freely-available tagged images; the program breaks down their essences, and recombines them to deliver its response to a prompt.

AI art enthusiasts point out that this is exactly the process of a real artist, absorbing influences and ideas over the years, and then drawing something new. Whereas artists say that if any of their own particular essences show up in your art, they'll sue your arse.

So who is now the artist: the prompter, the AI, or the AI's sources? Things turned wild when an artwork using the Midjourney AI engine won a competition in the US, even though the category was 'digital arts'. The AI art engines say you have (shared) copyright. But the debate will likely run until some court makes a call on it.

Anyway, to bring it back to our usual foci, the AI art programmers already have a video version, primitive, but it's early days. Text too, with engines for writing press releases (not yet reviews, thankfully). It all makes me wonder how long before someone thinks to apply this to music.

Attach an AI engine to a mountain of music files, all pre-digitised and tagged, then come back a week later and say — "Hey A-I, play Pink Floyd songs in a bluegrass style."* You could command any song in any style; perhaps you could write your own song and have it sung by Barbra Streisand or Ozzy Osbourne or whoever. What fun it all will be. What lawsuits we will have.

Perhaps AI music won't be so easy. A picture is one image. To make a video you need to generate perhaps eight frames per second (at present) and also understand the relationship between them. With music, you'd have to devise a linked series of audio snapshots thousands of times a second.

You'd think that would be impossible, but of course it isn't. The data for each would be far less than a video frame. Besides, six months ago I would have thought AI art at its current level to be impossible. So I wouldn't be entirely surprised to soon find 'genre/artist change' turning up as a function on streaming services someday.

If so, we must perhaps hope that, despite the danger of a Skynet scenario, AIs quickly develop some level of consciousness, or at least some common decency of taste, so that when I say — "Hey A-I, please play *American Pie* in the style of The Wiggles", it will reply — "No Jez, that is simply not appropriate. How about the original?"

Cheers!

Jez Ford, Editor

*No need for AI here, actually: 'Pickin' On Pink Floyd: A Bluegrass Tribute' got there in 2001, and is well worth a spin.

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The Hi-Fi Headlines

NEWSLETTER NO.261

Following a couple of years of Covid enforced inactivity we are finally seeing some new, and exciting, stock hit our shelves.

Marantz Model 40n finally here

After a long wait we have finally received the new Marantz Model 40n streaming amplifier. This conventional looking integrated amplifier features a high quality DAC, a raft of analogue and digital inputs plus Marantz's own streaming system – HEOS – on- board. The popularity of 'just- add-speakers' streaming amplifiers continues to gather pace, and this is not the first Marantz piece to fall into this category, but it is their premium offering to date. Being optimists we at Len Wallis Audio are holding our collective breaths that products like the Model 40n will herald a shift in the way consumers access home entertainment. Over the last decade or so there has been a seismic shift towards soundbars, and given the poor quality sound offered by most TV's this is understandable. However for various reasons many have also adopted the soundbar as their music source.

The Model 40n, and most products like it, feature a HDMI input. As well as streaming hi-res music you can connect your TV to the amplifier and play it through speakers of your choice. This will sound better for TV than the vast majority of soundbars. More importantly the difference while listening to music is night and day. We live in hope*.

BlueSound also releases new models

The 80watt/channel BlueSound PowerNode (amplifier and streamer in one chassis) is one of the best wireless streaming devices on the market. Recognising that there are many environments that do not require 80 watts (in- ceiling speakers in secondary zones for example) BlueSound have now released a lower powered version – the PowerNode Edge, selling at $1,199.

BlueSound have also realised that while their primary application is streaming digital music, many users have a variety of other components they may wish to connect to the system. Enter HUB. This compact box has HDMI eARC, Coaxial, Optical, analogue and MM phono inputs. Connect up to 5 components to the HUB and stream them to any other pieces of BlueSound you have in your home.

New MX- Stream from Musical Fidelity

Musical Fidelity have been late starters with streaming, but when they set their mind to something they usually get it right. The compact, and very well priced, MX-Stream is an excellent performer.

Designed to connect to any Hi- Fi system that has a DAC with a USB 2.0 audio input Musical Fidelity claim "only the musical information is transported, with almost no jitter or noise interference'. The unit supports streaming from Tidal, Qobuz, Spotify and internet Radio. It is Roon ready, will access locally stored material, has Bluetooth connectivity and supports files up to 32- bit/384kHz and DSD256. Importantly, the user interface is excellent – the Achilles heel of so many streamers! At $2,000 this is an excellent unit.

CEDIA AWARDS 2022

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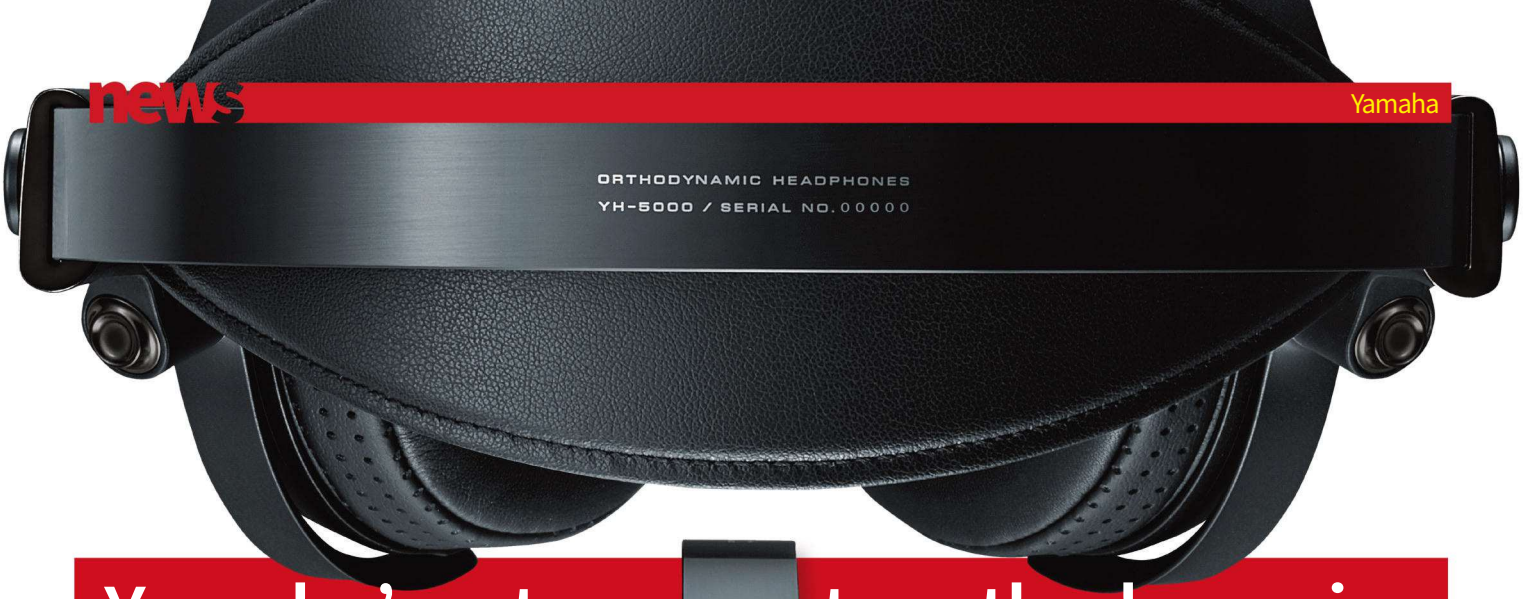

Yamaha's return to orthodynamics

If you thought orthodynamics were something you might slip in your sneakers to improve pronation, then Yamaha would like to take you on a journey back to 1976, when it introduced the HP-1 orthodynamic headphone.

Orthodynamic headphones are a type also known as planar magnetic, or isodynamic. Twin sets of thin perforated magnets are placed either side of a thin membrane — this diaphragm being somewhat similar to that in an electrostatic speaker or headphone, having the thinness of cassette tape, except that planar magnetic membranes have embedded conductors woven through the membrane itself, often in spiral or circular patterns. These move as their electrical signal varies within the fixed isodynamic magnetic field (one created by multiple drive points). The membrane is driven across its entire surface, as opposed to the pistonic motion of a conventional dynamic headphone driver.

In such an orthodynamic system, then, the drive source directly becomes the sound source, which reduces the transmission losses involved in other systems. It also allows smaller signal details to be portrayed, and far more rapid transients to be reproduced. No surprise, then, that planar magnetic headphones are famed for detail and speed, if not for bass. They are also notorious for requiring significant burn-in time.

This type of design had its heyday in the 1970s and has retained a modern following through brands such as Fostex and Audeze, though they are still a relative rarity in the marketplace today, given their high cost, and often the weight required for a successful planar magnetic design.

Weight was never a problem for Yamaha's orthodynamics: the original HP1 was only 290 grams, and Yamaha's new **YH-5000 orthodynamic** model weighs in at 320g.

But this is no heritage copy of a classic. When Yamaha set out to create its new flagship YH-5000, it revisited every element of the earlier designs to see how things might be improved by new knowledge and new materials, 40 years on from the original HP1.

1000 prototypes

Yamaha says that the YH-5000 took six years of research, beginning with "studying drawings left in the company's old drawers", says acoustic designer Ryo Hadano, and ending up with more than 1000 prototypes of the new orthodynamic driver (we should note that Yamaha likes to capitalise the word as ORTHODYNAMIC™).

More prototypes were built to evaluate changes to weight and comfort, earpad surfaces and cushioning material. The final version stabilises internal pressure and ensures a good seal by tilting the rotational axis of the swivel to allow a bit of vertical mobility, while there's a similar two-layer headband to that used on the original HP1, with its arm made of stainless steel and the headpad of leather.

The final YH-5000 headphone is an open-back design, of course, with its housing constructed from magnesium that combines low weight and with a high damping factor against vibration. A striking triaxial mesh protects the open-back housing.

The new headphones are being manufactured in Yamaha's Kakegawa factory in Japan ("alongside our concert grand pianos", notes Yamaha), and launches initially as the **Special Edition version, YH-5000SE**, which comes with nearly $2500's-worth of "premium accessories": a special aluminium headphone stand, two detachable silver-coated OFC-core cables with left and right channels individually braided, and two sets of earpads, one of highly-flexible perforated synthetic leather, the other in TORAY Ultrasuede. Each set has its own sound character, promises Yamaha.

The YH-5000SE is due around March at $7499 including accessories. The lone 'phone will follow at $5999. More info: *au.yamaha.com*

NEW WIRELESS SPEAKERS

Ruark R2

We currently have **Ruark's R2** medium-sized tabletop wireless speaker/streamer/radio running in our office, and we can report that it positively encourages radio listening of every kind: FM, DAB+ digital, or internet radio (just no AM). In addition it has Bluetooth onboard, and also Wi-Fi streaming with Spotify Connect and support for Deezer or Amazon Music.

Physical connections include an analogue input, USB-C playback, and a headphone output. Control is via Ruark's longstanding and intuitive RotoDial controller on top, or the Undok app (a remote control is also available as an extra), while the R2's warm and rich sonics benefit from solid Class-AB power and Ruark's neodymium-backed NS+ drivers.

This is the Mk4 version of Ruark's R2, and it slims down a little on the previous version: it is now 34cm wide and some 19cm high (though the antenna can extend far further up), and 15cm deep.

There are two finishes available: the pictured light cream lacquer with ash grille, or an espresso lacquer with walnut grille. Ruark's R2 music system retails at $899. More info: ***synergyaudio.com***

Mini Marshall

If you're after something smaller, the **Marshall Willen** aims to bring the heavy sound of Marshall to a portable Bluetooth speaker just 10cm square and 4cm deep, with a single two-inch driver plus twin passive radiators. The Willen uses 60% post-consumer recycled plastic from used electronics, has full IP67 waterproofing and dustproofing, and promises 15+ hour of listening on a single charge. The RRP is $199. More info: **www.aqipa.com.au**

Bluesound Pulse M

The Pulse M is the latest to join Bluesound's line of wireless multi-room streaming speakers, offering a neat elliptical cabinet that measures 204mm high, and offering full Bluesound streaming abilities including 20 natively-integrated music services and thousands of internet radio stations, all controlled from the BluOS Controller app, or through voice control assistants like Apple Siri, Amazon Alexa, or Google Assistant. Music can also be played over Wi-Fi, Ethernet, AirPlay 2, two-way aptX HD Bluetooth, USB-A, via the dual analogue/digital 3.5mm dual input, or from the headphone jack. It's genuine stereo, too, with twin 19mm tweeters offset at 45 degrees, and a 113mm woofer firing up onto an acoustic reflector which directing the driver's higher frequencies out and away, thereby promising a 360° soundstage. Wall-mount accessories and adjustable floorstands are vailable. Price is $999. More info: ***bluesound.com.au***

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Will Europe blow a hole in the 8K TV market?

New power requirements for TVs will come into effect inside the EU from 1 March 2023. The new rules are based on legislation dating from 2019, in a Commission Regulation "laying down ecodesign requirements for electronic displays pursuant to Directive 2009/125/EC of the European Parliament and of the Council, amending Commission Regulation (EC) No 1275/2008 and repealing Commission Regulation (EC) No 642/2009".

Dreary as that sounds, the creeping legislation could amount to a complete ban of 8K televisions within the EU. The key change from March 2023 is that displays higher than 4K-UHD resolution are no longer exempt from the rule allowing a maximum EEI (Energy Efficiency Index) of 1.1, and indeed this figure will be reduced to 0.9. And the 8K Association (of companies with an interest in expanding the 8K ecosystem) warns that the new limit is so low that essentially no 8KTV will pass.

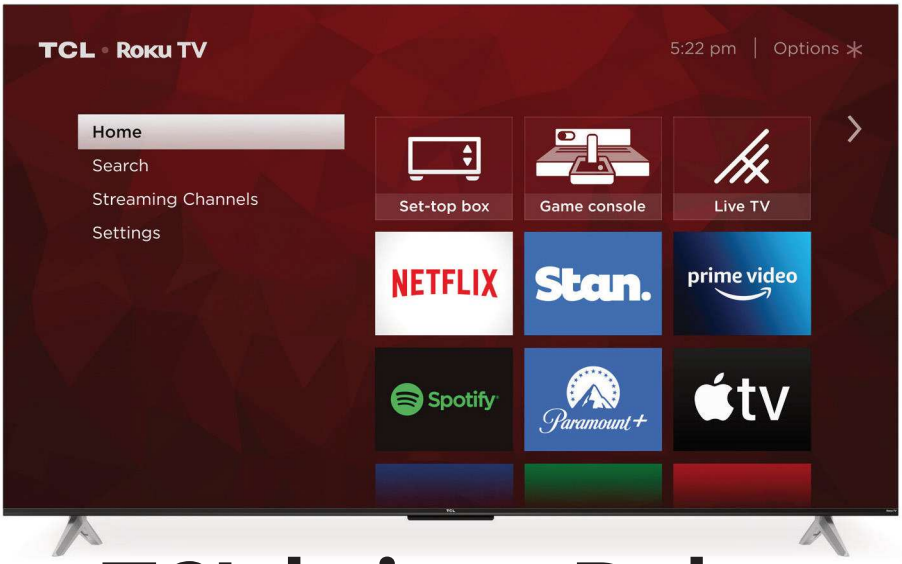
The legislation also affects Micro LED TVs, as these were also exempt from the rules, but will now be included from March 2023.

Low energy use is a good thing, of course. But we've always maintained that power ratings should be clearly stated so that consumers can take that power use into account, and then make their choice. Power use often governs the quality of performance, so we should not be told by government that we can't buy this or that on the basis of an energy threshold.

Some decades ago we attended Australian government consultation meetings on a proposal to limit power use in all electronics, a decision which would effectively have banned many large hi-fi power amplifiers from Australia. We were astounded at what little grasp the government department had of the issues, and that it seemed to be taking all its advice on the matter from a single consultant who was not particularly technically minded.

In the European 8K situation, the problem comes from legislation too old to adequately appraise the newer technologies scientifically. Some manufacturers have indicated that they might be able to produce 8K TVs that will operate within the new limits, but only by introducing a 'hobbled' European mode. Others fear that with such a large market shut down, the economics of 8K panels will be harder still, and future development will be curtailed.

While we have grown to love the best 8K TVs for their upscaling, it's true that 8K material is still thin on the ground. But that doesn't mean the choice to invest in high performance should be legally removed from those who want it.



TCL brings Roku

The Roku smart TV platform has been in use overseas for years, but has been available to Australia only via grey import and usually a VPN. So it's big news that Roku is now officially available here, arriving on smart TVs from China's TCL.

Nor is it a pricey option. TCL's first pair of **Roku TVs for Australia** are the 55-inch 55RP630 at just $699, and the 65-inch 65RP630 at $899. Both are direct-LED backlit 4K TVs supporting HDR (including HDR10 and Dolby Vision), with three HDMI inputs including one HDMI 2.1 spec with eARC.

The Roku bonus begins with the home screen combining inputs and live TV with access to the Roku Channel Store, which offers thousands of free and paid streaming channels. At launch, this will include obvious suspects such as Netflix, Disney+, AppleTV+, Paramount+ and Prime, but also regionalised choices like Stan, along with Freeview support for terrestrial broadcasts, though currently only catch-up services for channels 7 and 9.

The TVs will also connect with the Roku smartphone app to enable features like search, virtual remote control, private listening, and use of tablet keyboard for faster typing. The app can also share media to the TVs, which can also mirror using AirPlay 2.

Voice integration with both Google and Alexa is indicated as coming in Q1 2023.

More info: ***www.roku.com/en-au***

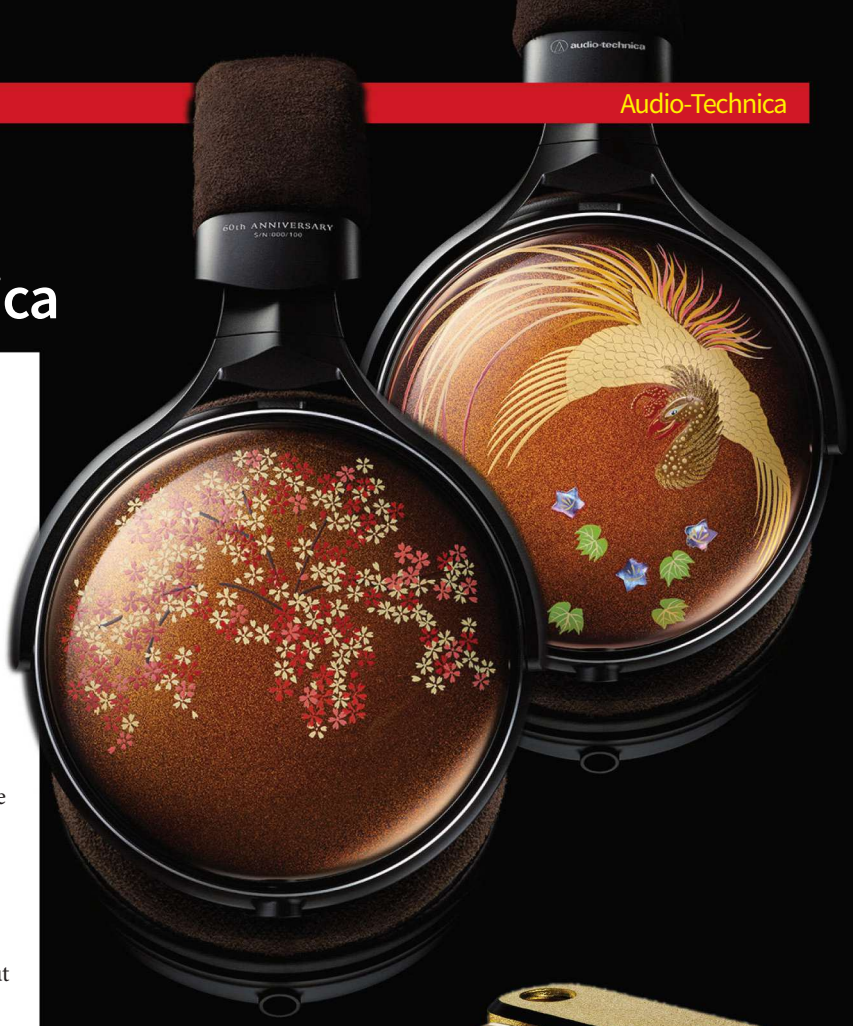
BusiSoft takes Clearaudio

BusiSoft AV has two announcements: it is in the process of rebranding as Addicted To Audio distribution, and it has been appointed as the official distributor of Germany's Clearaudio turntables for Australia and New Zealand, effective 1 January 2023. Founded in Germany, Clearaudio began its journey in 1978 with the launch of the Delta and Sigma loudspeakers, and has become especially associated with vinyl replay after the acquisition of patents for tangential tonearms in 1988, for new-generation moving coil cartridges in 1998, and in 2008 for a Ceramic Magnetic Bearing.

BusiSoft acquired the brand from its longtime Australian distributor Advance Audio, and takes over just as Clearaudio's high-end **Reference Jubilee turntable** (pictured) becomes available; this 22kg vinyl spinner is already listed by Addicted to Audio at $30,999 in its basic version or $44,999 when in a full package including the Jubilee MC moving coil cartridge. Even this, of course, comes nowhere near the top of Clearaudio's offerings, which top out at the vast vertically-stacked Statement V2, which in its black lacquer version is currently priced a dollar under $250k.

At the other end of the scale, Clearaudio's Concept range starts at $1999, depending on finish. More info: ***www.busisoft.com.au***

Hi-fi porn: anniversary haul from Audio-Technica



Not content by teasing us cruelly with an inadequate supply of Sound Burgers (see p28), Audio-Technica has other offerings from its 60th Anniversary collection to tempt your wallet.

Take, if you will, the new signature ATH-W2022 wooden headphones, their housings expertly-crafted from *mizume* Japanese birch and hand-painted with *sakura* (cherry blossom) and *hou-ou* phoenix designs on the left and right housings respectively, the right housing also incorporating mother-of-pearl, before being finished with traditional *urushi* lacquer. The idea is that they look as beautiful as they promise to sound thanks to their specially-developed, baffle-integrated 58mm drivers.

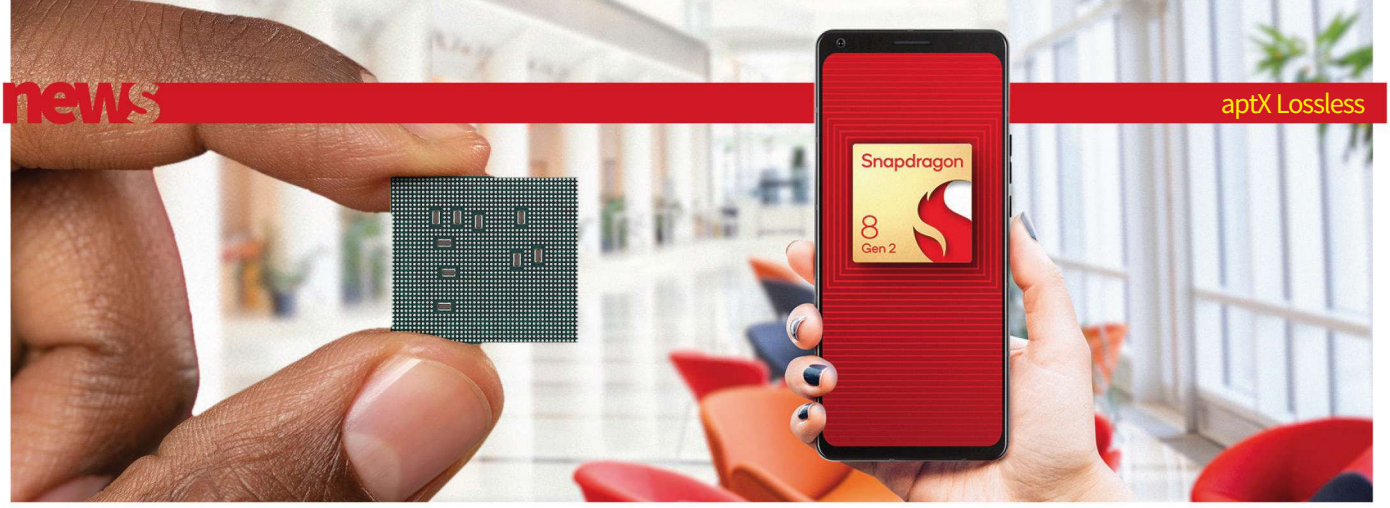
A somewhat more affordable real-wood model has also been released, the AT-WB2022: more radical in a way, since the intertwined marbled maple, walnut and mahogany of the headshells hide full active wireless internals — this is a fully-balanced Bluetooth or wired headphone, no less.

Vinyl lovers have not been overlooked, with the AT-MC2022 moving-coil cartridge not only resplendent in gold (actually an aluminium base and titanium housing) but with its great technical marvel of a unified stylus-cantilever that has been formed from a single lab-grown diamond, thereby eliminating the distortions caused by conventional bonding of stylus to cantilever.

For the price of one AT-MC2022 cartridge, you could get six of the AT-LP2022 turntables shown below, sadly also a limited edition like the Sound Burger, with only 3000 made, to be available in early 2023. The LP2022 sports a limited-edition Shibata stylus installed on the included AT-VM95EBK (black) cartridge and carbon-fibre tonearm.

Prices? Oh don't worry about prices! — we've put them below. More information: ***www.audio-technica.com/en-au***

AND THE PRICES...
ATH-W2002 headphones: $15,999
ATH-WB2022 headphones: $5999
AT-MC2022 moving-coil cartridge: $15,999
AT-LP2022 turntable: $2499



aptX Lossless: what it is, and why it requires a dragon

READ THIS FIRST

Regular readers will know that we are often standoffish about Bluetooth. Bluetooth itself can't send music wirelessly at anything approaching CD quality. In the beginning this was accepted as a compromise for the marvellous convenience of wirelessness. We always assumed the quality would improve, but it didn't: the Bluetooth SIG in charge of development focused on low energy, and speed; they never addressed audio quality in any useful way. Its latest announcement, the LC3 codec running on Bluetooth Low Energy, looks likely only to improve on SBC, the lowliest of Bluetooth codecs.

That has left the market open for third parties to improve things. They have devised ways to hijack non-audio parts of Bluetooth transmission to allow higher quality audio to flow. For a third-party codec to work, it must be supported by both the sending device (e.g. phone), and the sink (receiving) device., so it must have been hard work for third parties to get their tech into both phones from the giants of the phone world and into Bluetooth headphones and speakers from the giants of the audio electronics world.

Most successful in this has been aptX. Last issue we detailed some of aptX's journey in our interview with Jonny McClintock; the company grew out of a spin-off from Queen's University Belfast, was acquired by first CSR and then US giant Qualcomm. In some places you'll see aptX Adaptive, Low Latency, and 'HD' codecs described as HD, high-res, even lossless, but they are not — all these codecs have hitherto been lossy, meaning some information is thrown away, which means that cables have remained, in theory at least, the more reliable way of listening to music.

But perhaps not any more. Now we have aptX Lossless, which is, at its best, CD quality lossless. *Australian Hi-Fi*'s editor Becky Roberts has heard it in action, and also attended Qualcomm's Snapdragon Summit 2022. So we shall let her explain.

aptX Lossless is two things really: it is the first and only Bluetooth codec capable of losslessly (that's important) streaming CD-quality audio, and it is part of a package of Qualcomm audio technologies called **Snapdragon Sound** that will feature in a number of next year's Android phones and wireless earbuds and speakers.

aptX Lossless was announced in September 2021 and is just starting to appear in the first trickle of devices, with more expected in 2023.

While Qualcomm's aptX Bluetooth codecs (aptX, aptX HD and aptX Adaptive, to list them in chronological and capability order) are among the better-sounding methods in which we listen to music over Bluetooth, alongside the likes of Sony's LDAC and Apple's ALAC, the latest aptX Lossless is the first codec that is claimed to transmit CD quality music losslessly, without using a compression method that degrades sound quality. Other Bluetooth codecs 'support' CD-quality and even high-res audio, but they compress it lossily during transmission in a way that could detrimentally affect sound quality.

The compression inherent in transmitting audio over Bluetooth has become more efficient over the years, and aptX Lossless is, on paper, a culmination of Qualcomm's progress in this arena so far. Qualcomm told us that CD-quality (16-bit/44.1kHz) audio transmission with aptX Lossless is achieved between 1.1Mbps and 1.2Mbps (1100 and 1200kbps). As a rough reference, aptX Adaptive's maximum bit-rate is 420kbps, while the older and less efficient aptX HD can stream at 576kbps, and LDAC uses up to 990kbps. A CD audio file is 1411kbps, higher still, but lossless methods can achieve some data compression without data loss, and the claimed aptX Lossless figures fall within that limit. Qualcomm says that 'no data is lost when audio is encoded and decoded with aptX Lossless'.

As with Sony's LDAC, whether you get the full flow of quality can depend on your environment. The codecs need to dynamically scale the bit-rate to adapt to and accommodate busier radio environments without cutting out, and the maximum bit-rates may typically be rarely met. Qualcomm says it has built a bigger radio data pipe in order to sustain the required higher bit-rate, although in "challenging" situations it will "back off smoothly". But James Chapman, Qualcomm's VP and GM for Voice, Music and Wearables told us that: "It works. We've done it in our office in China — a regular Chinese office where there's lots of Wi-Fi. We stood 10 metres away from the phone and it was holding it up."

Snapdragon exclusive

aptX Lossless is part of Qualcomm's Snapdragon Sound platform, which is available on phones, headphones and speakers that use the company's Snapdragon 8 Gen 1 phone chip and S3 and S5 audio chips. So it will become available on devices in 2023 and beyond boasting the just-announced Gen 2 versions of those chips.

Examples of gen-1 devices on the market now are the ASUS Zenfone 9 phone and Nura NuraTrue Pro wireless earbuds (pictured), with which we experienced aptX Lossless recently, finding audible differences with the new codec discernible, though by no means night and day.

There aren't many aptX Lossless-supporting devices out right now; these evolutions often take two to three years to become meaningfully prevalent on the consumer-facing hardware side.

It will also be limited by Qualcomm's confirmation that it does not plan to license out aptX Lossless separately to Snapdragon Sound, indicating that something about the package enables optimisations that allow the codec to work optimally. So it will only be available to those using the full package of Snapdragon Sound audio technologies. These also include dynamic spatial audio, and the LE Audio Bluetooth standard, and so also Auracast, where owners of compatible headphones can zone into a choice of channels broadcast by, say, multiple screens of content in a bar or airport.

Qualcomm has also reduced Bluetooth latency by roughly 50% to 48 milliseconds, so that the time between seeing the gaming action on your (compatible) phone and hearing it through your (compatible) earbuds should be reduced. Active noise cancellation is also getting a facelift to enhance wind noise suppression and achieve a more natural ANC effect. ⊣ *Becky Roberts*

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2022 NEW

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4K HDR SXRD

2022 NEW

VPL-XW5000ES

Laser | 4K HDR | 2,000lm

4K HDR SXRD

A95K

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SONY'S NEW QD OLED MASTER SERIES TV. OUR BRIGHTEST, WIDEST EVER OLED COLOURS.

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An Ohm from home

Decibel Hi Fi is launching Australian-made versions of **Ohm Acoustics omnidirectional speakers**, with the first model, the W2000AU, now available for demonstration to Brisbane customers, while Sydneysiders will get a chance to hear them at the Australian Hi-Fi Show next April, where they will be demonstrated with Icon Audio amplifiers and an Origin Live turntable.

The W2000AU cost $4950 RRP per pair — a fair bit less than the price of the fully imported versions from New York. Maddern says this is mainly due to freight savings from the US, and the decision to offer a cloth finish over the real timber veneering, Maddern is keen to stress that the sonic characteristics are not changed by this alternative cladding. An Indigenous design has been chosen for the cloth finish of the pair, pictured here, but there is an enormous range of suitable cloth available, and this can easily be replaced when preferences or décor styles change.

Those familiar with Ohm Acoustics will know that the brand's best-known design feature is the single inverted omni-directional driver mounted atop the birch plywood cabinets to distribute the full range of frequencies across a 360-degree soundfield. More info: *decibelhifi.com.au*

australian hi-fi Show SYDNEY 2023
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Epson brings new Pro 4K UHD at $2k, 1080p at $1k

Following great success with the $8999 EH-LS12000B, Epson is bringing its 4K Pro UHD technology to a lower price with the newly-announced **EH-TW6250 home theatre projector**.

Priced at just $2099, the TW6250 uses three 15.5mm C2 Fine LCD panels, compared with one-panel projectors using DLP technology at such a price; as Epson notes, this 3LCD approach delivers equally high white and colour light outputs, key to the brightness of Epson images, here quoted at 2800 lumens and a 35,000:1 contrast ratio.

This projector joins the growing ranks of 'smart' projectors, as it comes with an embedded second HDMI input populated with an Android TV dongle, so there are built-in smarts with Android TV offering more than 4000 apps, and easy Chromecasting to the projector. Since the Android is a separate dongle, the projector's information screen usefully shows the kind of signal it is feeding.

The projector also has a built-in speaker which fires forwards; for a larger sonic performance you can either come out of a minijack stereo output socket or use the HDMI input as HDMI ARC out to a compatible sound system. Although the light source for this projector is lamp rather than LED or laser, Epson estimates the lamp will last for 15 years at a movie a night on its Eco setting, while replacement lamps are well-priced at around $130.

It's not the only newbie from Epson, which is also releasing **the CO-FH02 projector** at just $1099 (pictured below), a 1080p projector quoting similar lumen levels, and again bringing an Android TV dongle to the projection party in a neat case 320mm wide and just 87mm high.

More details of both at ***www.epson.com.au***

They call it 'CI-fi'

Custom Installation (CI) long ago raised itself from non-descript in-wall speakers to the realms of hi-fi, but Italy's Sonus faber is using the term 'CI-fi' to describe its new Arena collection, which rises higher still, and above the company's current and already luxurious Palladio architectural speaker range.

The new Arena range comprises three models: the main Arena 20 and Arena 30 in-wall speakers, anchored by the Arena S15 in-wall subwoofer.

The largest Arena 30 is a four-way model with a 19mm supertweeter in addition to a 38mm silk-dome tweeter, flanked by twin 16cm (6.25-inch) midrange drivers and 20cm (eight-inch) woofers, with the full baffle measuring 177cm.

The Arena 20 is a 3.5-way speaker with just a 19mm dome tweeter, one 6.5-inch mid, and cascaded 20cm drivers where one driver is low-pass filtered at 3.1kHz.

The S15 is a modular balanced subwoofer that Sonus faber describes as "a step forward in home theater innovation". It has a mounting depth of 20cm, into which it fits four 6.5-inch bass drivers in a balanced configuration to minimise vibration while delivering a response down to 29Hz -6dB.

Despite being in-wall, Sonus faber promises "the Natural Sound signature, definition, and details for which Sonus faber has been long admired". Prices are $25,995 for the Arena 30, $16,995 for the Arena 20, and $11,995 for the Arena 15. More info: ***www.synergyaudio.com***

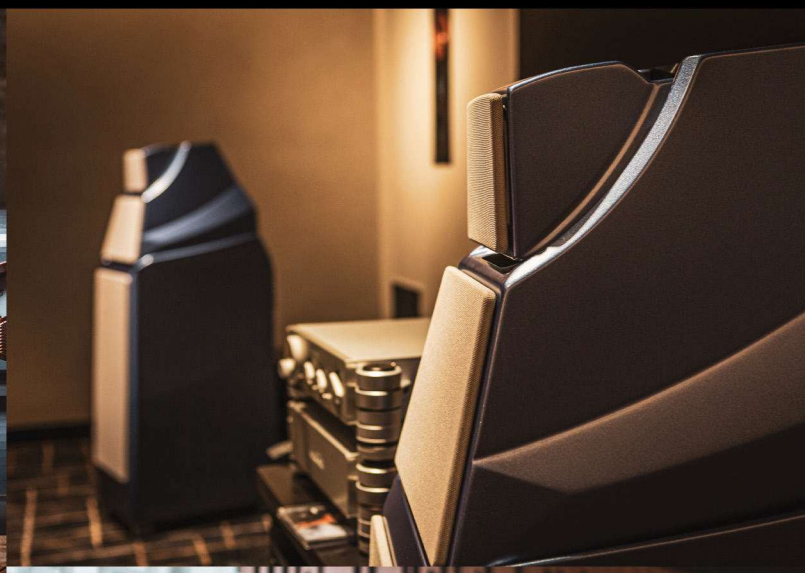
Bienvenue à la garden-party

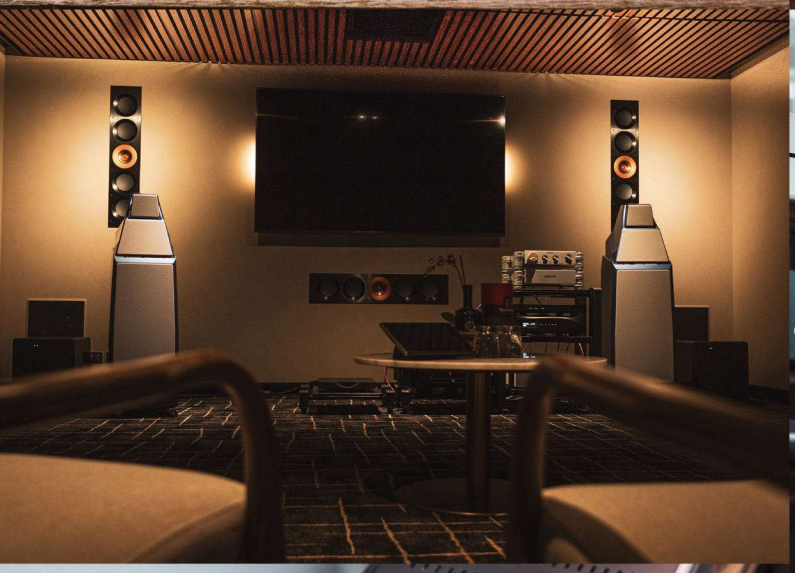
France's Focal has turned its hand to the outdoor speaker market, with its new Littora series providing a slight variation on the theme well-established by the long-running Sonance Landscape series. The Littora OD Sat 5 satellites (left) are in the Landscape style of directional speaker for in-wall or in-floor installation, while the OD Stone 8 (right, on the lawn) is different, presenting as a giant pebble-like design in a choice of three textured rock finishes: limestone, sand or basalt. Finally the OD Sub 12 is a semiburied subwoofer which completes the system designed for marine, coastal and wet locations. All units have anti-UV; the OD Sat 5 is IP55 certified, while the OD Stone 8 and Sub 12 are IP45 certified. Prices from $950. Visit: ***addictedtoaudio.com.au***

AUDIOCONNECTION

My Neighbours Listen To Excellent Music...

...whether they like it or not.





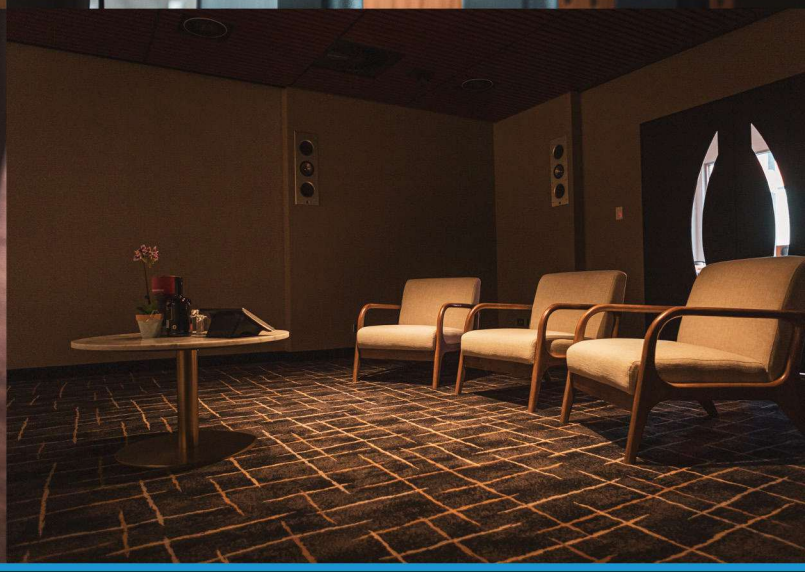


Image simulated for illustration purposes only.

Brilliance. With choice.

Samsung has delivered a new kind of OLED television. It makes the company's total TV offering irresistible.

It was wildly unexpected when the news broke: Samsung Electronics has released an OLED television — one model, in two sizes.

Why unexpected? Because Samsung has spent a decade campaigning one way or another for the benefits of Quantum Dot LED displays, repeatedly demonstrating the lighting precision and colour accuracy merits of increasingly sophisticated LCD-backlit models, and especially their advances in brightness compared with the limited illumination of... OLED.

So why now? Because the company has waited. Because what has arrived with Samsung's OLED and its new-to-market S95B models is not the usual OLED. Instead it's a new kind of Samsung OLED technology, and still powered by Quantum Dot. With this 'QD-OLED', *Sound+Image* magazine reckons the S95B is not merely another OLED TV, but one of the best OLED TVs on the market.[1]

TOTTING UP THE TECH

Around this innovative panel, Samsung has delivered a smart TV which incorporates all the built-in processing and easy user interfacing that have made the company's TVs global best-sellers for so many years.

Samsung OLED features the brand's latest Neural Quantum Processor 4K, which oversees image processing and upscaling, as well as an Intelligent Mode where smart sensors fine-tune performance. Adaptive Picture optimises content and adjusts screen brightness to match your surroundings. Active Voice Amplifier analyses noise in your room and aims to keep dialogue clear. And AI upscaling raises all lesser content to full 4K, with impressive results.

Samsung Smart Connectivity identifies connected devices and makes them operable via the TV's Advanced SolarCell One Remote, which never needs batteries, and accepts voice commands to control the TV (and far more) via Bixby, Alexa or Google Assistant.

The main Tizen interface offers endless entertainment built right in. All the key streaming services and all Australian catch-up services are there, along with a network media

NO BATTERIES! + ECO PACKAGING

Disposable batteries are not the best for the environment, but the remote control for 2022 Samsung TVs — including Samsung OLED – doesn't need them. Instead, it includes a solar panel for convenient charging indoors or outdoors. It's also made using recycled materials. Meanwhile Samsung's Eco packaging encourages re-use by coming with DIY instructions to transform the cardboard into a standalone shelf, a table, binder holder, even a cat house.

player and the ability to screen-mirror from PC, Android or Apple AirPlay[2]. There's also the bonus of Samsung TV Plus, a free app which brings more than 70 free streaming TV channels.[3]

Gamers love the colours, speed and sharpness of OLED, and here they benefit further from HDMI 2.1 compatibility for 4K resolution at 120 frames per second, flexible 32:9 and 21:9 aspect ratio capability, and the inclusion of AMD FreeSync Premium Pro technology, which helps prevent screen tearing and stuttering by syncing the frame rate of the TV with the GPU.

You can even stream Xbox games straight to your Samsung TV with the Xbox Game Pass app: all you need is a controller and an Xbox Game Pass Ultimate subscription.

SCREEN STAR

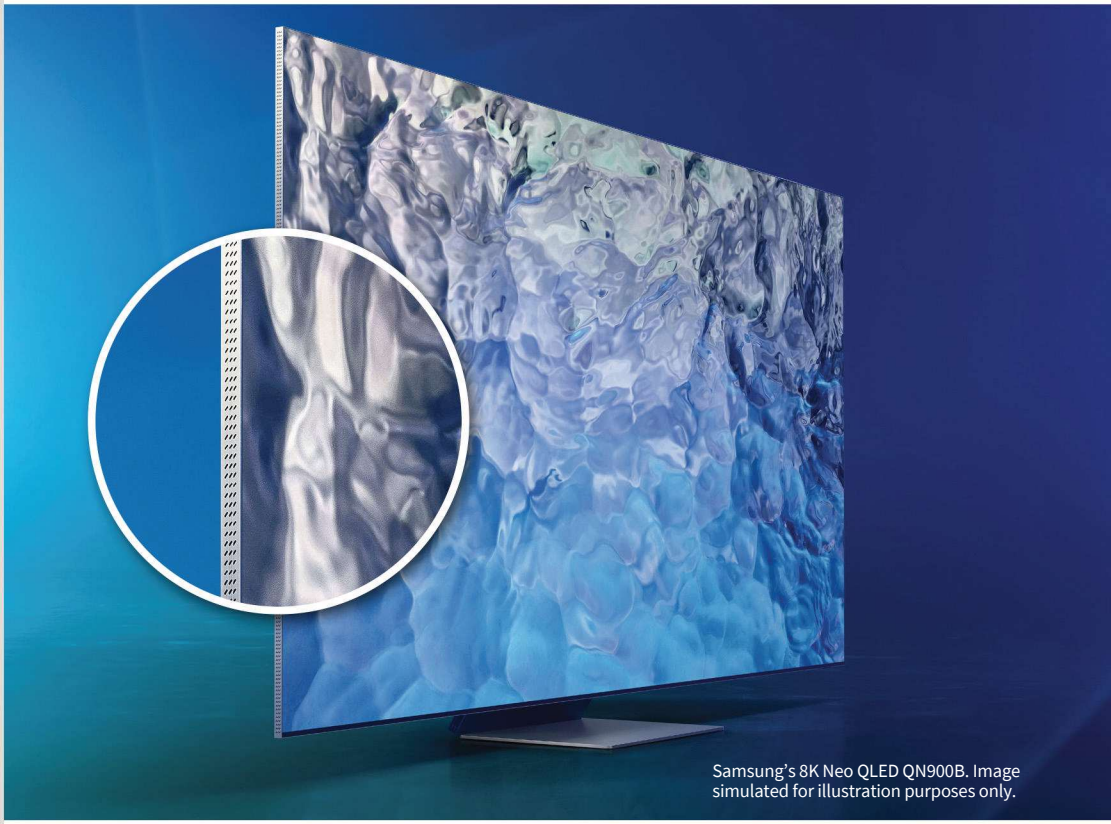
All this surrounding tech ensures the ultimate performance from the star of the show here — that dazzling OLED panel. So slim that it allows a 'LaserSlim Design' with a profile inspired by a laser beam, the TV delivers 4K with High Dynamic Range, including certified HDR10+ Adaptive & HDR10+ gaming.

As a front-emissive display the OLED Technology powered by Quantum Dot achieves ultra-wide viewing angles without colour fading, while Samsung's Motion Rate 200 with 1ms pixel response time ensures smooth and clear motion, with full user adjustment via advanced settings.

There's even an 'EyeComfort' mode which adjusts your screen's brightness and colour according to local sunset times, to be softer on the eyes towards the close of the day.

While the TV's own sound system employs SpaceFit to deliver an immersive performance in any room, it can also augment a Samsung Q-Series soundbar to work in tandem with the TV's speakers — and so deliver Q-Symphony audio performance to a scale that will match the OLED panel's extraordinary eye-popping visuals.

1 This is the opinion of Future Publishing Australia editors and has not been influenced by Samsung. **2** Screen Mirroring feature is available on Windows 10, Android 6.0 and higher mobile devices that support Mirror Casting and Apple devices supporting Apple AirPlay2. **3** Internet connection required. Data usage fees may apply.



Samsung's 8K Neo QLED QN900B. Image simulated for illustration purposes only.

BUT WAIT...

Before rushing to experience Samsung OLED at your local dealer, however, consider this. The years spent developing LED and other TV technologies have not been wasted. In its QLED and Crystal UHD ranges, and especially with the Quantum Mini LEDs behind its flagship Neo QLED televisions, Samsung has developed picture quality to equal OLED performance in some areas, and even exceed it in others. After all, Samsung has no hesitation in calling Neo QLED "Samsung's best TV" (the QN900B model 8K Neo QLED is pictured above).

Besides, Neo QLEDs rise in size beyond OLED's 55- and 65-inchers, with 85-inch models available, including 8K and lifestyle TVs like The Frame: "*TV when it's on, art when it's off*".

So by all means celebrate the dawn of Samsung OLED Technology powered by Quantum Dot. But should you want to go even bigger, and still stay brilliant, Samsung has all the technologies in place to deliver.

$22k vinyl + streaming

We ask a top hi-fi shop to recommend a top hi-fi system.

THE CHALLENGE

In our ongoing series of Dealer Systems, we ask a hi-fi dealer to recommend a hi-fi system. This is, of course, a rather general request — a good hi-fi store will ask their customer (you) about musical preferences, your home, the way you listen, as well as budget, so that they can help find you the perfect hi-fi for the job. But here we're asking for a system they themselves enjoy.

This issue we've returned to Sydney's Audio Connection in Leichhardt, because back in #342, when they came up with a massive $250k vinyl system, they also suggested a far more affordable combo. So here it is.

"*This system is a great simple system, something I call 'The Baby'*, Audio Connection's Arthur 'Arty' Petrides tells us. "*The Linn Selekt DSM is a such a versatile unit for a single box — streamer, HDMI receiver, amplifier, and it can be configured so many different ways. The small form factor of the speakers and the Selekt mean it's perfect for lifestyle living, apartments, and tighter spaces without having to compromise on performance.*"

And if you want to add vinyl to the streaming abilities, Linn is not exactly unknown for its turntable offerings. The result: a $20k system covering both modern and classic.

Linn Majik LP12 ▲ turntable with Krane tonearm and Adikt MM cartridge

NIGEL SAYS...

"If streaming is all you need, then the Selekt DSM and KEF speakers offer a complete system in themselves. But if you want to add vinyl, the Majik LP12 is the obvious choice. It's Linn's gateway turntable, beautifully built with Linn's sandwich-construction aluminium sub-chassis and its patented single point Karousel bearing, but it's also a starting point for upgrading to a higher level. For example you could upgrade right at the start by switching out the Adikt moving-magnet cartridge for Linn's Koil MC."

There are also choices in style, and in colour, with standard finishes of Oak, Cherry, Black Ash, Rosenut and Walnut, and special gloss Piano Black and High Gloss White — and with advance orders you can ask Linn to match any colour of your choice.

AUDIO CONNECTION

"*Audio Connection is all about experiencing better audio,*" says Nigel Ng, Director at Audio Connection, located in Leichhardt, Sydney, on Parramatta Road. "*Nothing makes us happier seeing our customer's reaction when hearing their favourite song or watching their favourite movie come to life. We're an experienced team of people, putting the quality and fun back into audio. Whether it's a simple system in a study, or a flagship end-goal system, we've got it in store.*" More info: **audioconnection.com.au**

Linn Selekt DSM Classic Hub ▼ network music player

ARTY SAYS...

"This is the most configurable streamer on the market. You can use it as a line-out streamer, or an integrated amplifier, or a full 5.1 receiver! This choice for this system is the $10,995 Classic Hub configuration, which has 100W power output capable of driving most speakers. The Standard DAC performs beautifully in all applications, and with Linn's app you can fully control the system via an iPad or iPhone."

SPECIFICATIONS

- Inputs: HDMI ARC, 2 x optical, 2 x coaxial digital, USB-B, line-level analogue, mm phono, mc phono
- Wireless streaming via WiFi, Bluetooth and AirPlay 2
- Space Optimisation
- Hub style: Classic
- DAC: standard (24-bit/384kHz)
- Stereo amplifiers included
- Dimensions: 35 x 11 x 35cm
- Weight: 9.5kg

◀ KEF R3 speakers

ARTY SAYS...

"KEF's R3 is one of the best selling bookshelf speakers in its category. Few speakers have the presence, the dynamics and the bass response in a small box. Not to mention the finish — the walnut looks incredible!"

SPECIFICATIONS

- Type: three-way bass reflex
- Drivers: Uni-Q driver array with 25mm vented aluminium dome + 125mm aluminium cone; 165mm (6.5in.) hybrid aluminium woofer
- Nominal impedance: 8Ω (min.3.2Ω)
- Cabinet dimensions: 42 x 20 x 31cm
- Weight: 13.5kg

ALL TOGETHER NOW

"Full and rich, the KEF R3s perform like a floorstanding speaker in a bookshelf form," says Audio Connection's Arthur 'Arty' Petrides, *"and the Linn Selekt DSM has the perfect amount of power to make these speakers sing in a system with tight bass response, great detail and clarity. Another good thing is that very few cables are required: power cables, speaker cable for the KEF R3 — Nordost Heimdall 2 is the ideal pairing for these — and the phono lead for the turntable. And later, or from the start, you have a heap of upgrade paths with both the Majik LP12 and the Selekt, which can be configured as a basic two-channel amp, or all the way up to a 5.1-channel receiver, all using the same box."*

$22,000 'THE BABY' vinyl + streaming

Turntable: $6995
Network Music Player: $10,995
Loudspeakers: $3695
Cables: $extra
Stands: $995 (optional)

TOTAL SYSTEM PRICE: $21,685 + cables + stands

Revival meeting

Revival Audio
Atalante 3
stereo loudspeakers

A new brand arrives from France, with a little nostalgia on the outside, but a full dose of tech on the inside.

SUMMARY

Revival Audio Atalante 3
Price: $4000

+ Astounding soundstaging
+ Great all-rounders
+ Lovely finish & details
– Grilles not so pretty
– No biwiring option

Anyone launching a new speaker brand faces a Herculean task of differentiation. With so many loudspeakers in the world of every shape and size, using materials traditional and exotic, how can a newbie make a dent in such a densely-populated market?

Enter Revival Audio, from France, though very close to the German and Swiss borders in picturesque Mulhouse, Alsace (pictured above). It is an entirely new operation, but co-founded by industry stalwarts who have significant experience, what they call "nearly four decades of 'savoir-faire' behind many well-known flagship models among top tier brands".

Revival has now released its first two loudspeaker models, both fully designed, engineered and assembled in France using all 'in-house manufactured' components, the company declaring firmly that "We DO NOT buy off the shelves!"

And both feature new technologies which go a long way to explaining the company's belief that it can find a place among so many global speaker brands. We are listening here to the smaller (though hardly petite) of the two models, the Atalante 3. So what's the story, and how's the sound?

Speakers from spam

The French speakers are being brought to Australia by Audio Marketing in Sydney, and we asked the company's Tim Wallis what persuaded them to take on a new and as-yet-unknown speaker brand.

"Brave?", we suggested. Tim laughed.

"One of the things that appealed is that this is such a small, focused offering," he told us. "That's refreshing, given some of the trends at the

BAREFOOT REVIVALISTS: company founders Daniel Emonts and Jacky Lee with Atalante 3 & 5 speaker models. ►

moment are to offer so many skews and so many colours and so many prices.

"So that was one of the attractions. And we found them originally almost by luck — an email that went into 'Spam', and thankfully we actually looked at. They offered to send us an info pack, and I was very impressed, so I said let's have a listen. When they sent us a pair, they did take a lot of hours to calm down, but we had them probably no more than five days and we were convinced. So we said, look, if it's still open, we'll take the agency."

Revival's credentials do indeed seem strong, with its co-founder, CTO and design engineer Daniel Emonts having long industry experience including stints with Altec-Lansing, Focal-JMLab and most recently nearly six years at Dynaudio, where he was senior R&D engineer of acoustics. His Revival co-founder Jacky Lee was also resident at Dynaudio, ultimately as Chief Commercial Officer, having previously worked with IBM in his home country Taiwan before leading the business establishment of Dynaudio China from 2016, after Chinese company GoerTek acquired majority shares in Dynaudio in 2014. So that would seem to give the new Alsace-based company a solid grounding in both the engineering and the business *nous* to achieve commercialisation.

Cabinets & build

Revival big-notes its aesthetics, noting that "*Sound is an Art, on top of its science nature*", and that a Revival Audio product equals "*an Art Piece of Sound*", though with "*no gaudy design to stack up the price...*" And to this end they have collaborated on design with the award-winning A+A Cooren Design Studio based in Paris.

It's pleasing that Revival has not (yet) felt forced to follow the common trend to décor-friendly slim towers. The more classic dimensions here certainly fit the revival tag, and indeed we significantly underestimated the size of the Atalante 3 standmounter from the initial pictures we had seen. And you can judge the size of the $8000 Atalante 5 from the picture of the founders (left), bearing in mind that its bass driver is a chunky 12-incher, with plenty of space around it on the baffle. The Atalante 3 has a seven-inch woofer, and is a still substantial 38cm high, 24cm wide.

The cabinets are beautiful: a rich dark and tactile hand-picked walnut veneer, split just above the midpoint by a lovely line of inlay right around the speaker, meeting on the front baffle with a little laser-etched rosette with the double-R Revival logo. The company calls this effect a "belt & knot design", making us wonder how they tie their belts over there.

The baffles are also fairly unusual in the tweeter of each speaker being offset, rather than vertically aligned with the woofer, so that the two speakers are non-identical: they are reflections of each other. And such speakers create a positioning quandary — do you set them up with the tweeters on the outside or the inside of the speaker?

Inside would most likely deliver slightly more of the tweeter output to the listening position and thereby enable a strong sound-stage, though a more narrow one than would be heard with the tweeters outward and so more separated. And if on the outside, the offset tweeters should also deflect the sonic axis, the equivalent of toeing in without actually shifting the speakers off-axis, which can bring a soundstage into focus while keeping things neat aesthetically.

With many such speakers there is no right or wrong way: it's preference. But there's no such debate here, because the backs of the two Atalante 3 speakers are clearly marked either L or R. [If Revival Audio had chosen to keep these labels in French, left would be 'G' for gauche, and right 'D' for droit. But these things may be best left in English, for the sake of universality. In the old days French taps marked 'C' would pour unexpectedly piping hot (chaud) water on unsuspecting tourists, much to the amusement of the locals.]

We realised there's another reason to follow Revival's preferred positioning — this orientation keeps a second piece of branding visible on the outer sides of each speaker. We like the way this second logo and the words 'Revival Audio' are etched into the side of the cabinet itself; in some pictures this can look rather like branding on a steer, but up close it's more workmanship than stockmanship.

So we suggest you do as they bid, as did we, putting the tweeters to the outsides.

And surely grilles off. The two-part magnetic grilles clamp on and pull off the front of the Atalante 3 easily enough, and these blocks of stretched grey fabric (see overleaf) may just about look on trend in a home of distressed concrete, but they almost entirely hide that fine veneer, and that 'belt-and-knot' inlay. Having said that, with their grilles off there is a slight blockiness to the overall proportions, so that their individual asymmetry and their rear corners sometimes seemed to slip away in perspective as we moved around the room, while the deeply-dished woofers followed our movements with exotropian eyes.

◄ Revival's tweeter showing the ARID inner dome (far left), the ridged back-chamber damping disc (centre) and the finished tweeter unit with RASC-coated dome (left); the basalt sandwich woofer cones. ▲

Driver technology

While they have chosen to make speakers that visually hark back to a classic hi-fi age — the company is called 'Revival' after all — the driver technology within those solid wooden cabinets is thoroughly modern, and as noted, all Revival's own work.

The woofers use new materials, notably basalt, extracted from grey igneous lava stone, and touted as being sustainable, recyclable and not, like many cone materials, derived from petroleum products. The cone construction is a sandwich with basalt-fibre fabric as the top layer, a polymer glue and a felt in the middle, and a specially customised foam-based cone as the bottom layer. This has been labelled as BSC (Basalt Sandwich Construction).

Both speaker models share the company's 'RASC' 28mm soft-dome tweeter, which has an asymmetrical dome suspension and a large ferrite magnet which promises to achieve neodymium levels of control without the cost (and using a more eco-friendly material).

The tweeter also features an interesting back-chamber damping system which seems not entirely disassociated with the ideas behind KEF's MAT tweeter damping, using a circle of structured rigid plastic (pictured above, top centre) featuring angled and asymmetric ridges designed to absorb resonances and damp back-chamber energy. The label 'RASC', which is also applied to the midrange of the larger Atalante, refers to the coating used on the domes, which Revival says took "*hundreds of hours of experiment... and brings perfect break-up control and the most accurate, smooth sound reproduction.*"

Behind the dome is what Revival calls an Anti Resonance Inner Dome, or 'ARID' (above, left) which the company claims as being the "critical component elevating the performance of our tweeters and midrange drivers from outstanding to extraordinary". This is another rigid piece of shaped plastic where the swirling surface has been CAD-designed both to avoid resonances and to guide the waves behind the ARI, where they are absorbed in the back cavity.

The tweeter unit *in situ* is quoted out to 22kHz at -3dB, and with the mid-bass driver in the Atalante 3 pushing down to 44Hz.

The rear connections use a single set of binding posts, so no biwiring or amping is possible, leaving Revival's crossovers to do the deed: "Our philosophy of crossover design is, that… we don't have a philosophy," says the company. "We use as few components as possible, but all that are needed."

Listening sessions

The supplied rear port bungs are also grey foam, but it took only little time to confirm that we liked the Atalante 3's bass performance *sans bonde*. We settled on having them some 40cm out into the room on solid stands; Revival offers its own stands for each model of Atalante, both priced at $749, and very solidly built in iron, with impressive golden outriggers that can take spikes or rubber feet.

And the Atalante 3's sonic merits were clear from the off. We were only warming them up, running a smart playlist on lossless Apple Music (and damn, those smart Apple playlists are so on-the-money that we suspect they've been in the house going through our singles collection). Paul Simon's *Kodachrome* leapt from the speakers with a verve we had not expected. The soundstaging was simply extraordinary — wide, lively and shimmering — while in the lower frequencies the bass guitar of David Hood with the Muscle Shoals rhythm section was dancing from the top to the bottom of his range without any low-end curtailment whatsoever.

The playlist played on. Dylan's *Jokerman* was a revelation in how the Revival speakers were able to deliver a cinematic visibility to the acoustic around Dylan's vocal; he sounded as if crooning in a stage spotlight as we listened from front-row balcony seats. Again the bass held rock solid, locking Sly and Robbie's rhythm section together as it octaved up and down through the verses, with oceans of space in the soundstage for the guitar and organ to swirl and intertwine.

What magic is this! Hold our calls!

The sound really did bewitch us. As we searched for a word to describe this slightly heightened sense of reality, we settled on 'presence' — by which we don't mean a crude boosting of treble frequencies like the old hi-fi knobs of long ago, but rather a physical presence spread wide and forward in that brilliant soundstage. It drew us in to nearly everything we played. How jangly and zingy was The Who's *Squeeze Box*; how in-your-face Doug Boyle's guitar fronting Robert Plant's *Liars Dance*; how startlingly real the roll of toms from right to left late into Queen's classic *Spread Your Wings*.

The bass on Tom Petty's *Running' Down A Dream* was solid and pumping, with Petty brilliantly clear and isolated in the middle. But the Atalante 3 didn't necessarily fill out leaner material — they weren't about to invent bass that wasn't there. Thin-sounding files came through with the same trademark hyper-soundstaging, but no attempt to thicken things artificially; there's no crowd-pleasing bump in the upper bass here.

That ability to highlight mix elements while retaining a truth of tone made the Atalante 3s a riveting listen with something impeccably recorded, like an Alan Parsons album. The song *Silence and I* may be a little reserved and English in its production at first, but as the orchestra warmed up a couple of minutes in, the soundstage expanded in both width and depth as heavily reverbed horns handed over

to dancing woodwind and rippling marimba, before dropping down to Eric Woolfson's almost apologetically winsome vocal, and back up to the finale. If not truly massive, given the limitations of a seven-inch woofer, it was a perfect presentation at, say, two-thirds scale, and one that made us itch to hear the larger Atalante 5s with their 12-inchers!

Yet even these smaller Atalantes could sound massive. We spun some vinyl Pink Floyd (well, Roger really), playing *Two Suns in the Sunset* at the end of 'The Final Cut', complete with Holophonics car effects from Zuccarelli Labs going from front right to supposed rear right, and this felt a fully weighted delivery. The thud of the kick drum was big but tight, a perfect kick, and the bass amazingly full for standmount sound, not dropping strength until the very bottom E, and then only a tad.

The Atalante 3's gorgeous delivery of acoustic recordings had us itching to try bigger bands. We loaded an SACD of Nat King Cole (a fine Tivoli Audio disc called 'The King of Sound') and heard the years drop away as the durrie-smoking crooner was welcomed into our room, his vocal rounded, rich, and lifted forward of the soundstage as the strings of *Nature Boy* swirled around and behind, cleanly etched and edged, full and real in tone, and the piano solo immediately standing out as rather muted in its miking, perhaps even a tad out of tune, unlikely as that seems. The boppier stuff punched out, highlighting the almost ping-pong mix of *Walkin' My Baby Back Home* — horns sharp in the right, clarinets sultry in the left, and when the main break came we were cranking the level until we felt like we were watching the recording through the glass window from the box, enjoying full-level studio sound. This was just joyful stuff.

The notion of 'presence' again came to the fore with Rudolf Buchbinder's solo delivery of Beethoven's Piano Sonata No. 27 (DG, 2021), where the piano is not wide-miked across the soundstage but rather captured centrally with a stage acoustic, just closely enough to keep a firm attack to notes; indeed we could discern the individual weight of his fingering in slower passages, while the bursts of bounced sound in the stabbing staccato sections served a real close-your-eyes-and-you're-there experience of the performance.

For greater scale we moved up to one of Beethoven's piano concertos (no. 3, the minor one, with an older Krystian Zimerman returning to the concertos with Simon Rattle and the LSO, recorded during the pandemic). Classical fans will love the Atalantes' combination of low-level detail when *pianissimo*, full-scale dynamics when *fortissimo*. The surprising scale of these standmounts allowed us to raise levels to enjoy a full-scale piano, the recording here just a little smeary on rapid runs, but still with a wide and involving soundstage, and only at maximum orchestral complexity and crescendo (e.g. 6:10 in) did we find a moment where the Atalante 3s began to exhibit any congestion at all.

Before finishing up our weeks with these fine Frenchies, we put them on TV duties either side of a large TV. Their wide-ranging abilities excelled here equally, while that unusual 'presence' made for unexpected head-raising moments to appreciate, say, the resolution and immersion of applause from the studio audience on *8 out of 10 Cats Prefer Countdown*, or the moments of heart-stopping drama underpinned by ominous soundtrack depth on *The Curse of Oak Island*. The speakers proved here their ability to play quiet while still presenting a full image. This treatment kept *Oak Island* exciting even when played relatively quietly because all the doors and windows were open on a sunny Saturday morning.

Verdict

The tunes kept thrilling us from the Atalante 3s even as we were getting the packaging ready to receive their load for return. US3's glorious *Lazy Day* came up on rotation, the Atalante 3s fully gripping its unusual combination of bass qualities — there's a drone, something almost subterranean, and an extra kick drum putting some super deep thud over the first sax solo — while the 'heya' calls inhabited their own perfectly formed acoustic region at 10am on the dial. Darn these Atalante 3s: they were showing us things our usual reference speakers don't do.

Only reluctantly did we pack them back up. What a debut! The Atalante 3 makes good on the French company's claims of hi-fi engineering expertise, the benefits of controlling every element of the design, the sheer solidity of sound that quality cabinetry and innovative driver design can deliver.

So is there room in the market for a new loudspeaker brand? When it arrives with a *derrière*-kicking debut performance like this, we can only say '*Mais bien sûr!*' +

SPECS

Revival Audio Atalante 3 $4000

Type: 2-way bookshelf loudspeaker
Drivers: 28mm soft-dome tweeter, 180mm (7-inch) basalt sandwich woofer
Quoted frequency response: 44Hz–22kHz -3dB
Sensitivity: 87dB/2.83V/1 metre
Impedance: 6 ohms nominal (min. 4.4 at 175Hz)
Crossover: 2.8kHz
Dimensions (hwd): 39 x 24 x 27cm
Weight: 11kg
Contact: Audio Marketing
Telephone: 02 9882 3877
Web: www.audiomarketing.com.au

This is not a toy...

In fact this limited-edition souped-up re-release turntable turns out to be something of a burger king...

Audio-Technica
Sound Burger AT-SB2022
portable wireless vinyl disc player

SUMMARY

Audio-Technica AT-SB22
Price: $429

+ Instant appeal
+ Sounds almost as good as a normal one
+ Rechargeable battery
+ Bluetooth and line outputs

– Some underlying noise
– They haven't made enough…
– … so it's sold out already

Only six months ago, we wrote a little history of Audio-Technica, by way of celebration of the company's 60th birthday in 2022. And as we passed through the information and memories of the 1980s, we were reminded of the time when the company came up with a bright red attempt at a portable battery-powered turntable, released in some markets as 'Mister Disc', but known to most of the world as the 'Sound Burger'.

The Sound Burger could play both singles and albums, it came with a set of fold-up headphones, and was supported by some natty advertising. In our little history we ended that section with the comment: "How much do we want a re-release of the Sound Burger!"

Those in the know at Audio-Technica must have chuckled. They were already working on a re-release, and not just a replica, but an update. Ladies and gentlemen, please welcome a Sound Burger for the 21st century.

Sound Burger 1982

Compact Disc arrived in 1982, and to a company built on a thriving turntable cartridge business, it presented an existential threat. It took less than five years for silver discs to outsell vinyl for the first time, the beginning of what many believed would be the total demise of vinyl, and with it the cartridge and tone-arm business of Audio-Technica.

The Japanese company had been riding high after 20 years dedicated to providing affordable cartridges that would bring high-fidelity music into more homes. It was an idea that had grown in the mind of founder Hideo Matsushita as he spent his thirties conducting 'LP concerts' at Tokyo's artsy 'Bridgestone Gallery', where an audience would listen to vinyl records played on high-quality audio equipment. In 1962, with a capital of one million yen and three employees, he aimed to bring that experience to the home; he rented a one-storey private house in the Shinjuku district of Tokyo and began building the AT-1, a moving-magnet cartridge that claimed to "revolutionise sound quality" with a technology that implanted a diamond needle without crushing the tip of the pipe cantilever.

The AT-1 and its successors quickly became bestsellers, and were followed by innovations like the patented 'VM'-type Dual Moving Magnet design, which duplicated the V-shape of vinyl cutting heads and used two small magnets on the stylus cantilever to better track extended frequency response and channel separation.

By 1982 the company had released its first diamond cantilever and was perfecting a new secret weapon — single-crystal high-purity oxygen-free copper, known as PCOCC, used in both the coil wires and the terminals of the company's new AT-OC9 cartridge.

But what could the future be for such cartridges in the new world of Compact Disc?

The company did initially pivot, conducting research and development into semiconductor lasers and optical pick-ups, and delivering actuators for both LaserDisc machines and CD players. But these would never bring the company the same large-scale replacement business they enjoyed with stylii and cartridges in the vinyl world.

Hideo Matsushita announced a challenge for his employees, inviting them to come up with "original ideas

and technology" that could provide new direction for the company. One result of this was a little-known area of success for Audio-Technica: sushi-making machines (right). Today its subsidiary AUTEC is number two in a 50-country market for sushi-makers.

At the same time, Sony's cassette Walkman was riding high. Audio-Technica even released a 'Point' series of lightweight headphones designed for that market. It was still a couple of years until Sony's CD Discman, but over at Audio-Technica, someone had already suggested applying the same concept to vinyl replay. Could they design a portable record player?

Yes they could: enter the original Sound Burger, a plastic clamshell with a pivoting arm and a small die-cast aluminium turntable onto which an LP or single could be affixed to be spun under belt-drive by an electronically-controlled DC motor. Underneath the original Sound Burger had a battery compartment for three 'C' sized batteries, and it came with a pair of spindly ATH-0.15F "stereophones"; two other Point-series stereophone models were also available separately, and two pairs could be attached to the Sound Burger at once, so you could listen with a friend. Of course this required a built-in phono stage to be included, and that also allowed the output to be plugged into any radio-cassette player or amplifier.

In some respects, a portable record player clearly didn't compete with portable cassette or even portable CD players. "Do not move while playing!" is the first warning of several in the original manual of the AT727 Sound Burger, highlighting the most fundamental issue. Another obvious quandary is how much vinyl you might plan to carry with you. As a result of this, and the Sound Burger's appearance at the dawn of CD, this portable record player is often called "ill-fated", or given a place in lists of "weirdest products". Yet it was a popular product (Sony tried a similar concept in its far less excitingly designed linear-tracking PS-Q3 and siblings), and Sound Burgers have maintained a fan base over the decades since its disappearance. Vintage Mister Discs and Sound Burgers sell on eBay today for far more than the price of this new revived model; the service manual is still available (thanks to HiFi Engine among others), and there's even a 3D-printing template available for a two-screw headshell to replace the one-screw version on the original, allowing owners to upgrade to modern cartridges.

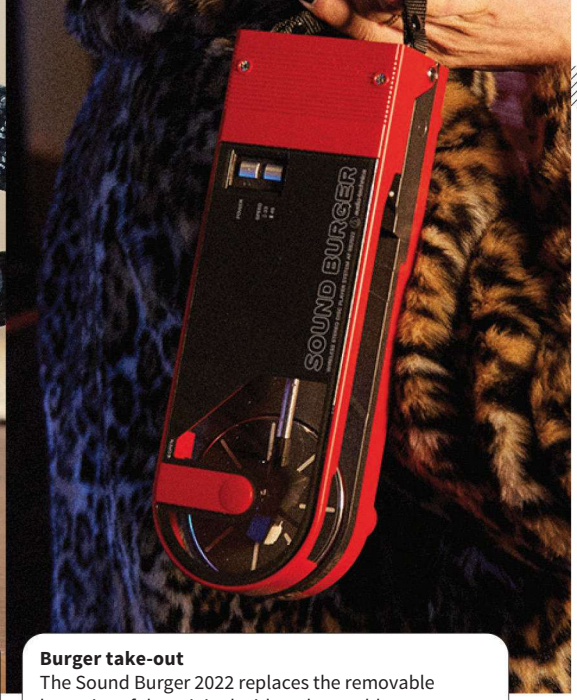
Sound Burger 2022

Celebrating the company's 60th anniversary, then, and 40 years since the original, Audio-Technica has released a new AT-SB2022 portable wireless disc player, the 21st-century update of the Sound Burger. In its wisdom, the company has made this a limited edition of 7000 numbered units, with only a few hundred allocated to Australia. We were first to get our hands on the single unit available here for demonstration and review.

You can guess the result — it's sold out already. So we're in the strange position of reviewing something you're going to be very hard-pressed to get your hands on. We very much hope Audio-Technica relents, and restarts the production line for this thing of delight for those of us with a love of hi-fi. Because surely, in our time, with vinyl now declaring victory over those pesky CDs, the age of the Sound Burger has come.

We confess to being confused by the box it arrived in: a tall tasteful box that we thought might contain a bottle of wine, labelled in celebration of the 60th anniversary as it was, and its outer sheath made from a traditional Japanese paper called Echizen washi, from the original home prefecture of Hideo Matsushita and the city where Audio-Technica opened a new state-of-the-art Technica Fukui facility in 2010. We even checked under this wine box to see

Handle & sockets
Round the back of the Sound Burger there's a small woven carry-strap,along with sockets for the minijack line-level output and USB-C for charging. At the bottom is a numbered anniversary plaque, and above is the hole where a long screw locks the arm in place for travel. The black Bluetooth button is on the side.



Burger take-out
The Sound Burger 2022 replaces the removable batteries of the original with rechargeable lithium-ion, good for 12 hours of vinyl-spinning.

if there was a turntable underneath, before realising that the Sound Burger fits in this long thin box, and slides out easily, emerging along with further anniversary-celebrating paperwork, and accessories including an adapter for jukebox singles that have their centres punched out, a minijack-to-RCA audio cable, and a USB cable for charging (supplied without a mains adaptor, cleverly making the product suitable for use in all countries).

All 7000 of the new Sound Burgers are red. Much of the tech is retained, so this is still a belt-drive system driven by a high-precision DC motor, spinning an aluminium platter at either 33⅓ or 45 rpm.

The tonearm has a transport screw fixing it in place, and this long plastic screw needs removing from the back end of the unit in order to swing the tonearm out into place, where it clunks into a notch at its outermost position. It retains the same dynamic balance system in which stylus pressure of approximately two grams is applied via a spring.

But this is not a replica: the AT-SB2022 has been brought into the 21st century. Instead of dual headphone outputs and RCA plugs, there are now no headphone outputs and just two sockets — one minijack audio output at line level for plugging into a system, and a USB-C socket for the cable to charge the player.

The USB-C socket marks a key change in terms of practicality — the Sound Burger no longer requires its three 'C'-cell batteries, instead having a rechargeable lithium-ion battery. It takes 12 hours to charge, says Audio-Technica, and then gives some 12 hours of battery power. There seems no reason, however, that you couldn't leave the USB cable plugged in at home, effectively running it on mains power.

The cartridge and stylus are modern versions of the 'VM'-type dual moving-magnet design, similar to but without the dual-screw mounting of the AT3600L cartridge, and we gather that ATN3600L stylii (costing around $30) will fit just fine when your portable vinyl playback sessions leave you in need of replacement.

The other key addition is Bluetooth. Hold down the little black Bluetooth button at bottom right and the Sound Burger will look for any other devices in pairing mode: we soon had it linked with the Bowers & Wilkins '007' Px8 headphones (though of course Audio-Technica has some excellent BT headphones of its own, not least the Sound+Image award-winning ATH-M50xBT2). We found ourselves again enjoying the rare experience of totally cable-free vinyl playback. With the Sound Burger on batteries, and Bluetooth playback via headphones, there is neither a signal nor a mains cable — a vinyl miracle!

The one downside here is that the only Bluetooth codec supported here is the base-level SBC, with no AAC or aptX or anything else, so that the wireless sound will not be sent at the best possible quality.

Nevertheless we were immediately enjoying the sound. We had half-expected the kind of performance that emerges from extreme-budget record players — the Sound Burger was a novelty turntable, right? We should have thought more highly of Audio-Technica. The Sound Burger actually does a very respectable job, though we were unable to use our usual app to make speed, wow and flutter measurements, because of the clamshell clamping shut over the spindle. The official specs quote wow and flutter below 0.25% (WTD) at 3kHz, with signal to noise (via the analogue output) above 50dB (DIN-B). Compare that with, say, the comparably priced AT-LP60XBT, a well-regarded conventional and also Bluetooth-equipped turntable from the same company, and you'd expect Sound Burger's specs to be pretty average in comparison, right? Nope — exactly the same numbers. So in terms of published specs, at least, the Sound Burger keeps up with Audio-Technica's conventional turntables.

We say again — this is not a toy.

Listening sessions

We began on headphones while we were setting it up, but once everything was working we moved the Sound Burger to the music room, gave the best possible support of a good Quadraspire hi-fi rack, and hard-wired its minijack output into our system.

Minijack is not the best hi-fi connection, of course, which might again lead you to believe that the hi-fi credentials of a Sound Burger are limited.

You'd be wrong. We could hardly believe how well it compared with other turntables which have been through our system. When we played a simple acoustic piece, *Pigs On The Wing pt2*, last track on Pink Floyd's 'Animals', it delivered nicely edgy and jangly panned guitars, with Roger Waters' vocal nicely clean and central. When we compared this with the same track played on the company's AT-LPW40WN, a bare-bones $699 deck, there was no great difference in tone or separation, just a better sense of stability from the conventional deck, with the soundstage from the Sound Burger occasionally sliding slightly to the left.

When Roger sings "So I… don't feel alone, or the weight of the stone" there's a sibilance on 'So' which was over-emphasised by both decks, but we had to move up to something as high as Rega's Planar 6 before we found a deck that didn't do that.

When playing a quiet track like *Flying Pt.1* from Keith Jarrett's album 'Changes',

there was also a very slight grinding rumble in the left channel in places, which even a budget deck like Sony's PS-LX310BT avoids. There was also, despite the quoted specs, a little wowing audible on extended piano notes. But the actual shaping of the piano notes was better on the Burger than the Sony — brighter, and more alive, where the Sony felt damped down and controlled. The Burger did not, however, match the stability and silence of Sony's pricier HX-500.

Complexity also had some limits, so that a dense piece of pop like Jeff Lynne's *The Sun Will Shine* didn't fully burst forth at the break as it can, and this — another track at the end of the side — also pulled a little to the left, sounding a tad compressed, even grungy, compared to some of the cleaner-sounding decks, though rather similar to A-T's own AT-LPW40WN.

So in performance terms, the Sound Burger surprised us by standing its own against price-comparable conventional decks, which we reckon is quite the achievement, given its nature. It's not the ultimate turntable, of course, but then you wouldn't expect that. And these comparisons were made by plugging its output into a very revealing system, beyond its price level.

Through lesser gear, or when listening on headphones, the differences are less obvious, and the artefacts suppressed.

Yet even on the big gear it continued to entertain. We gave it our EMI 100 pressing of 'Band On The Run' from 1997, and it spread the title track wide and strong between the speakers, strong tom hits on the chorus, plenty of full bass content, and a minimum of audible distortion, so that all in all there's absolutely no way you'd guess this was coming from a portable battery-powered turntable. Sometimes we'd forget, turn around and be surprised to see the outrigger tonearm wobbling slightly as it tracked the unsupported vinyl far out beyond the Burger's edge.

There are a few operational cares to be taken, mind you, especially when moving the arm around. There's no lever drop, so you're in charge of lightly lowering the stylus into the groove and lifting it at the end, when it's especially easy to make a mistake as there isn't the usual height available; the arm is restricted by the Burger's folding cover so you need to keep the arm low, but obviously not so low as to graze the vinyl surface. And various others hazards may, of course, apply if you take it on the road!

The Bluetooth output will allow you to play into a Bluetooth speaker, or into Bluetooth headphones. If using a speaker we'd say you should still run the cable if you can. Our hi-fi amplifier also has Bluetooth, so we were able to compare the two outputs directly (or almost directly, since you have to pull the minijack cable out before the Bluetooth will work, while plugging it back in turns off Bluetooth). Performance via the cable definitely retained an edge on clarity over the slightly softened Bluetooth sound.

Not that you'll notice on headphones. Vinyl listening with wireless headphones is a joy, as we've previously noted. Twenty minutes to roam the house enjoying a side of the black stuff, before returning to flip it or replace it. Singles are a little less fun this way, but we do like the seven-inch format, and had a session at this higher rotational speed, which you select using the second of the two press-stud buttons; these have replaced the toggle switches on the original. We grabbed a hands' width of singles, happening on our Motorhead singles collection, so challenged the Sound Burger with *Louie Louie*, *Bomber*, and *Over The Top*. These singles could do with a proper clean, but the Burger chomped through them well enough, dynamics reduced by dirt, and of course we were popping the red top every three to four minutes. But the music powered through. (And we used a DS Audio ST-50 stylus cleaner between each play, to keep the playing interface pristine.)

Conclusion

Obviously the Sound Burger is a desirable object in itself, but we can confirm that the performance is also perfectly up to speed for this price bracket, regardless of the unusual approach, and notably its lack of support under the outer edge of discs. We did find some mechanical noise, groove noise and occasionally stability issues more notable than we'd expect from a conventional deck. But otherwise the Burger matched price peers note for note in terms of tone, soundstaging and, crucially, musicality.

And here there's Bluetooth and battery operation; the Bluetooth is for convenience, but battery power could even make a positive contribution in providing total isolation from the mains.

Should you take it to the beach? Well, if you get one, you can do what you like with it. Problem is — you almost certainly can't have one. They didn't make enough of them. We gather not only the few hundred made available to Australia but pretty much the entire run of 7000 was accounted for within days, with some lively discussions online. Craig Pugh in Brisbane responded to one of our posts to tell us that back when he ran Craig's Hi-Fi in the UK, Sound Burgers cost £69 and he remembers selling one to Charlie Watts. Which just makes us want one more.

So if you want one too, join us in sending a message to Audio-Technica: make some more Sound Burgers please! After all, the originals came in many colours — so why not a rainbow of custom clam shells? This may have been a limited edition, but it can surely not take another 40 years for the next serving of Sound Burgers to arrive. +

SPECS

Audio-Technica AT-SB22 $429

Type: belt-drive
Power: rechargeable 3.6V lithium-ion battery
Speeds: 33⅓, 45 rpm
Inputs: USB-C power
Outputs: minijack analogue, Bluetooth (SBC)
Charging time: 12 hours
Playback time: 12 hours
Dimensions (whd): 290 x 100 × 70mm (no disc)
Weight: 900g (empty)

Contact: Technical Audio Group
Telephone: 1800 280 000
Web: www.audio-technica.com/en-au

How KEF made the LS60 Wireless so... crazy slim!

KEF
LS60 Wireless
wireless speakers

Not only are KEF's towers crazy slim, these are fully active streaming speakers which could be used as a complete system in themselves.

UK-based KEF has found great success putting amplifiers inside its speakers over the last five years. First there was the highly-regarded LS50 Wireless launched in 2017, then the family baby, the little LSX, which recently got its refresh as the LSX II.

But the $9995 LS60 Wireless floorstanders, released as part of the company's 60th anniversary celebrations (extended from 2021), are a departure. They are an extraordinarily slim tower design, and they introduce technologies which Dr. Jack Oclee-Brown, vice president of technology at KEF, says made the new design for him a "transition point" (we guess 'tipping point' would be a bad choice of words for such slim speakers) in the debate of relative merits between passive versus active speakers. Notably the LS50 Wireless had been based on an existing passive speaker, while these new floorstanders are KEF's first truly ground-up active speaker design, designed as active from the outset.

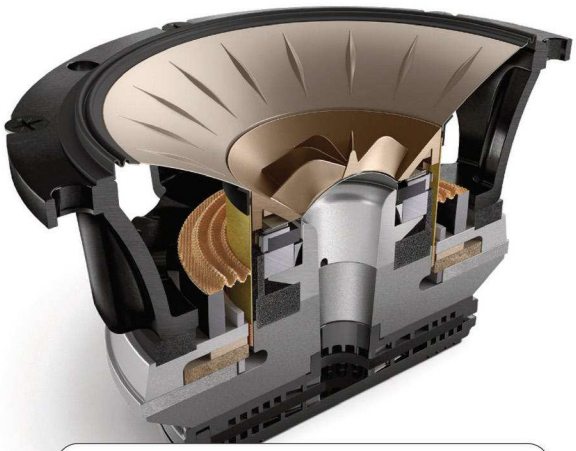
"If you're making an active speaker, it doesn't necessarily make sense to do the driver or acoustic design in the same way you would with a passive," says Dr. O-B. "You can, that's fine — but then you forgo the opportunity to do something that might potentially perform better, or give the customer more options."

Starting from scratch had some radical effects on cabinet design, and in particular how the internal processing and amplifiers could compensate for reduced cabinet volume. So let's unbox and enjoy these slim active wireless speakers, and get some more inside info from Dr. Jack as we go.

Slimming down with Uni-Q

A combination of cleverly positioned cardboard surrounds and plastic clips means you can unbox the KEF LS60 Wireless in just a few minutes. And the first thing that strikes you is how extraordinarily slim the cabinets are, just 13cm across, excluding the plinths.

"With active designs, you can either take it one of two ways," says Jack Oclee-Brown, explaining KEF's choice here. "You can take something with a conventional footprint and size, and make it perform better. Or you can try and hit the same performance in a smaller package — and for this product, that's what we've done."



Uni-Q
KEF's longstanding Uni-Q drivers place the tweeter within the midrange for various advantages, led by the imaging delivered from a single apparent source.

SUMMARY

KEF LS60 Wireless
active wireless speakers

+ Great soundstaging
+ Astonishingly slim
+ Powerful bass given their size
– All-in-one system doesn't allow future upgrading

The slimness also references one of KEF's flagship speakers, the Blade, which is designed so that all its drivers have what KEF calls a 'single apparent source'.

"The width of the bass driver is normally what determines how wide a speaker is, but by using Single Apparent Source [technology], where you put bass drivers on the side, you overcome that," explains Oclee-Brown. "Suddenly, the speaker width can be determined by the Uni-Q driver. With Blade, we were trying to create something very, very high performance, so the whole thing ends up being 200mm wide but still has nine-inch bass drivers. If we had put the bass drivers on the front, the width would have been 350mm. We tried to do the same thing here but on a different scale."

Hence the driver complement is like a mini version of KEF's Blade, including the smallest Uni-Q driver the company has ever designed, a 12th-generation of the coincident-source design which puts a tweeter inside the midrange, here a 19mm vented aluminium-dome tweeter within a 100mm aluminium cone. For this latest Uni-Q iteration KEF has added a tweeter gap damper and a new Z-Flex silicon tweeter surround to aid dispersion and reduce distortion, as well as the innovative rear absorption disc called MAT (Metamaterial Absorption Material), where multiple channels of different sizes aim to damp down sound from the rear of the tweeter; KEF claims it absorbs 99% of the tweeter backwave.

"Uni-Q is just going to continue to be the icing on the cake for KEF customers, that we can deliver cutting edge driver design but also the benefit of having a single source" says Oclee-Brown. "One of the key things here was how we make a 19mm tweeter sound like it's not limiting the output. The Metamaterial is part of that, but so are redesigned motor systems, and a silicone rubber surround so the dome can move along the way."

Uni-Core and DSP

Uni-Q allows the slimness, then, but how has KEF managed to ensure enough bass with such a slim low-volume cabinet?

"For a passive speaker, that just doesn't work at all — you end up with something with no bass," says Dr. Oclee-Brown. "But for an active, this is where you can start bending the rules. If we can make the bass drivers have more power handling and enough throw capability, we can just put bigger amps in and then use DSP to regain the bass we'd lost. Again, single apparent source works well for this because instead of having, say, one bass driver, you end up with four, so it's four drivers sharing the power, so your power handling problem starts to reduce.

"But you still need that high excursion, and the problem then is you're trying to fit two bass drivers back to back in a 12cm-wide cabinet. We spent a lot of time trying to make 6cm-deep bass drivers that would have the excursion we needed, but we were hitting our heads against a brick wall. We started to think of silly ideas to make the bass drivers slimmer — and that's when the idea of Uni-Core came up."

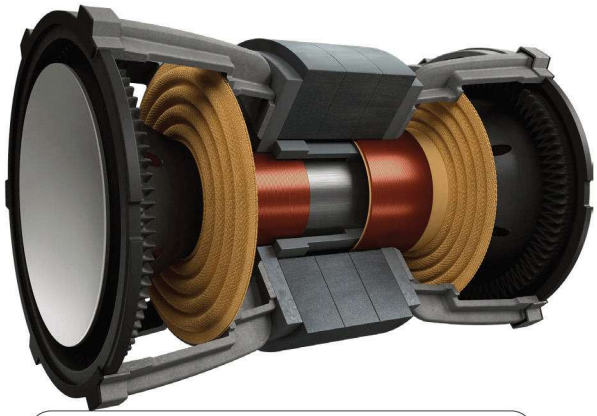
Not to be confused with Uni-Q, Uni-Core works by arranging two voice coils concentrically, one with a greater diameter so that the smaller one can move within the larger one (see image below). Though developed for the LS60 Wireless, the solution actually debuted in KEF's dinky 'miracle' K62 powered subwoofer last year — opposed drivers combining force cancellation (the drivers are mounted back to back) with a shared motor system and separate voice coils. Oclee-Brown spells out the theory.

"If you take a driver and you look at what composes the depth, basically half of it is the cone, moving parts and the suspension, and the other half is the motor system. And you can't really squeeze them down without making the throw lower. Make the moving parts slimmer and they start to hit things; make the motor slimmer and the 'Xmax' [operating range] of the motor drops off.

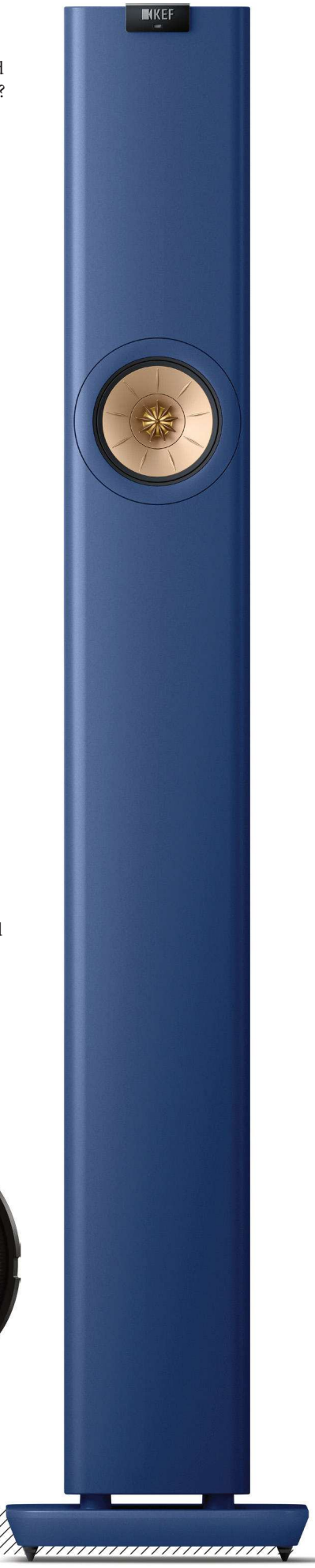
"So, we've got two of these back to back and we were starting to think 'well, what if we try and make one motor that can drive both of the cones?' So then our width, instead of being split into kind of four, is split into three — moving parts, one motor, and then moving parts.

"Honestly, it was one of those things we almost rejected in the discussion stage because we were all pretty much convinced it would be a real pig to get working. It was only

Metamaterial Absorption Material (MAT)
Behind the tweeter, the MAT disc uses multiple channels of different sizes to damp down the tweeter backwave by a claimed 99%.



Uni-Core
KEF narrowed the width of two opposing drivers by combining their motor systems into one, while separate voice coils of different sizes pass through each other.



once we rejected all the other ideas that we thought we'd give this a go, and the simulations worked out better than we expected."

Each speaker uses three separate amplifiers to drive each section independently. The woofers and midrange get Class-D power of 500W and 100W respectively, while the HF section gets 100W of Class-AB. The system is kept cool by the use of heat sinks and passive cooling with air travelling from an opening between speaker base and plinth, past the main electronics module and out again through a vent close to the back panel.

Dr Jack explains that the DSP in the active design not only allows the desired bass, it flattens the response and reduces distortion.

"It's clean and you can have a lot more bass extension when it's playing quietly," he says. "It doesn't sound strained. And being closed box and having that really deep extension also changes the sound of the product, because it gives you much, much more control in the bass so you don't have the overhang that comes with the kind of roll-off. The sound characteristic of the LS60 is kind of quite different, and I think in a really, really good way."

Features & set-up

With such a narrow tower, KEF has helped stability with heavy base plates, keeping them anchored to the floor. These come attached, so your only decision is whether to attach the supplied spikes or stick with the rubber feet.

The right speaker is the 'primary' speaker, with most of the connections, along with buttons for pairing left and right speakers together and connecting Bluetooth devices. Here also are the physical inputs: HDMI eARC, optical and coaxial, plus a pair of analogue RCA inputs. The HDMI makes the LS60s eminently suitable for flanking an AV system, of course, and during testing we connected an LG TV via HDMI, finding no latency sync problems in playback.

The speakers network by either Wi-Fi (connecting using the KEF Connect app) or using the Ethernet port. A second port lets you run the supplied Ethernet cable between both speakers for a hard-wired connection allowing native playback at 24-bit/192kHz. Without the connecting cable the system drops to wireless playback at a still-respectable 24-bit/96kHz, and notably also drops all internal processing to the same level, downsampling anything above and up to 24-bit/384kHz. There's also support for DSD256 and MQA decoding. Should you want to connect an external subwoofer or two, each speaker sports a subwoofer output.

The LS60 Wireless is driven by the same W2 wireless platform that was introduced with the LS50 Wireless II, supporting streaming via Apple AirPlay 2, Google Chromecast and Bluetooth. You've also got Amazon Music, Deezer, Qobuz, Spotify and Tidal streaming services available via KEF's Connect app, which places playback controls, streaming services and internet radio at your fingertips.

But we're pleased to see also a small remote control provided, so you have basic controls for playing, pausing, skipping tracks, switching inputs and altering volume.

The app also allows Normal or Expert EQ settings, the former with basic adjustments for speaker positioning and room type, the latter more extensive tweaking including treble trim, phase correction, and bass extension.

Listening sessions

Let's not hold you in further suspense — KEF's design efforts are wildly successful, and the LS60 Wireless speakers serve up a level of sound that astounds, given the cabinet size.

The dominant first impression is the soundstaging, the integration of all those drive units as a single point of sound, with the benefit of precise imaging at the sweet spot, and indeed over quite a wide listening area.

When we streamed a Tidal Master of David Bowie's *Modern Love*, each element was layered beautifully in the soundstage as it was introduced: first the guitar, then the drums and piano, and finally the vocal. There was width and height to the sonic image that never sounded stretched or feigned.

It's a system that sounded toe-tappingly lively and enthusiastic, but retaining precision and solidity, the KEFs keeping a solid grip on the track without squeezing life out of it. Every individual piano key strike, guitar string pluck and drum beat was dispatched with gusto and self-control.

Keen to hear how the Uni-Core drivers handle low frequencies, we switched to the Jauz remix of Shaed's *Trampoline*. There was an impressive level of detail and space for the intro whistle and lead vocal, its echo surround floating effortlessly in the ether until the vocal rise, a perfectly executed moment of silence — and into the track's deep dirty bassline. The KEFs managed to dispatch this with intent and force, the edges sharply drawn and with wonderful texture to the notes. When given their head, it's hard to believe a cabinet this slim can produce such impact, so much weight and power.

We loaded up the last track from the 'Inception' OST, *Time*, and the KEF system showed off its prowess through the slow build, a growing sense of scale as the delicate strings overlay the drums in the deep, then as more elements entered the mix the KEFs obliged with a huge swell of sound, no reduction of scale even at the height of the crescendo, before the halt, and drop back to the track's delicate beginnings. This was a masterful performance.

Conclusion

There are existential arguments against wireless active speakers in general, just because they're an all-in-one solution, so you're putting all your eggs in the one basket, with none of the traditional upgrade paths of a separates system. It's the argument we used to make against mini systems in the olden days.

But the L60W is no mini system — this is real hi-fi, redefining what you can expect, especially from slim towers, with some impressive engineering backing a solid feature set, good user experience, and best of all the impressive audio quality at the price, especially when you compare it against a full system of streamer, amp and passive speakers.

So it's a triumph, despite being in some ways a first attempt at a new concept. As Dr. Jack says: "We're only just starting with this... so there are definitely things in the future which should be able to make a concept like this work even better."

We can't wait.

Interview: Becky Roberts

SPECS

KEF LS60 Wireless $9995

Type: Wireless active speaker system

Drivers: Uni-Q 19mm HF vented aluminium dome inside 10cm MF aluminium cone; 2 x 5.25-inch Uni-Core Force Cancelling Driver systems

Inputs: HDMI eARC, optical, coaxial digital, RCA analogue, Ethernet, USB-A (service only), Wi-Fi

Outputs: RJ45 interspeaker, sub out

Dimensions (hwd): 109 x 21 x 39.4cm (with plinth)

Weight: 31kg

Contact: KEF Australia

Web: au.kef.com

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Sony
HT-A9
surround system

THE BIG REVIEW

Fantastic four

Full Atmos surround from four speakers and a little control box? We delve deep into Sony's innovative take on surround for the lounge.

SUMMARY

Sony HT-A9 system
Price: $2699 (+$809 for subwoofer)

+ Radical and successful concept
+ Full Atmos from four speakers (and sub)
+ Big and powerful for the price
+ Great with music

– Limited inputs (except via TV)
– Five/six power points required
– Occasional audio glitches
– Are the phantoms a furfy?

There are two ways we could review this radical four-speaker surround system from Sony. We could tell you what Sony says it does, then describe how it sounds. But we only half believe what Sony says it does; we're left taking that pretty much on faith.

So it might be easier if we tell you what we're sure this system does, and how it sounds. We'll discuss the conjectural stuff in a panel overleaf.

Because the HT-A9, what do we think? It's just brilliant — it's clever, it's neat, it sounds great, it's well-priced. Let's get into it.

Really very Sony

Sony has been through such transformations over the last decade or so — separating and restructuring its divisions, outsourcing TV production and far more — you'd be forgiven for wondering if the innovative Sony of old, the company which would release products unlike anything else — has been lost somewhere on the margins, the more radical revisions of today's technologies left to the likes of Google and Apple.

But then here's the HT-A9 system: definitely different, and most certainly successful in its goals, which are to provide a simpler but still fully immersive surround sound system for the home.

So what's wrong with the current offerings for surround in the home? Well, there are soundbars which offer immersion, but they often fake the surround element, and may throw height information up at the front but not the rears. Plus you have to fit a soundbar right in front of the TV, or have it looking a bit daft sticking out from a wall-mount.

At the other end of the equation is the traditional home cinema system, which requires a big AV receiver to decode the signal and create all the multiple outputs, with cables running everywhere. Full surround systems have or hang speakers all over the room, and those centre speakers are particularly hard to accommodate in anything other than a dedicated theatre room.

So here's Sony, with a proper all-round surround system of identical speakers, each with a dedicated height channel built in and firing up. There are no signal cables: everything is wireless. There's no big receiver required: Sony's small control unit does it all. And there's no centre-channel speaker to accommodate: there are four speakers, one to go in each corner, plus an optional subwoofer (though we'd suggest it's not really optional; see below). Four speakers means real surround, no psychoacoustic virtual trickery required. And identical speakers mean a perfectly balanced soundfield all round.

As soon as we saw the HT-A9's release, we thought — how clever! And how 'Sony'.

The control box

The first thing out of Sony's all-in-one packaging is the control box. Pictures make this look rather like an

AppleTV, a black box with a curved square footprint — but when we set it down next to an AppleTV 4K, it is far larger, having a 20cm diagonal compared to 13cm, and 5cm height compared to 3cm.

It is nevertheless a remarkable achievement, given that it has to manage input switching, signal decoding, all the wireless communication and at least two sets of antennas, because the box both sends out signals wirelessly to the speakers and receives inwards from a local network, allowing the unit to stream music via Spotify Connect, Tidal, Chromecast and Apple AirPlay 2, as well as Bluetooth.

We gather the engineers initially feared that doing all this would require the control unit to be near full AV receiver size. But with that surviving Sony magic (or as one engineer puts it more prosaically, "some things really are possible if you put in the work…"), they eventually shrank things down, using two layers of metal plates and other parts inside the box to separate the various circuit boards and antennas, while managing to vent sufficient heat through diagonal slots.

The control unit's physical inputs are hardly extensive, and they may limit those hoping to connect multiple external sources for music or video. Along with power and Ethernet, there are two HDMI sockets — one is an input for a AV source, the other is in/out to your TV, receiving TV audio via ARC or eARC, while also sending either an onscreen menu or the video from its connected source.

These HDMI sockets are good right up to 8K/60 or 4K/120, and will pass Dolby Vision HDR. Of course you can plug extra video sources into the TV and get Atmos (often in a lossy Dolby Digital Plus wrapper) from the TV to the control box via HDMI. That's fine for streaming sources. But to be sure of uncompressed Atmos (in a TrueHD wrapper) you can have a Blu-ray player plugged into the control box directly.

"There is something of a choice between purity and processing here, between the excitement of immersion and the isolation of minimalism…"

You'd better hope your TV's HDMI ARC (preferably eARC) socket is fully compatible with the Sony control unit, because there is no fallback optical or analogue input here to use if it isn't. We do still encounter a fair few ARC clashes between kit, so it might be worth getting a confirmation from your dealer on the compatibility of your TV before purchase.

Of course, Sony notes that the HT-A9 works best with Sony TVs! And that's not only because of HDMI compatibility — there is also a mono analogue minijack socket on the control box labelled 'S-Centre out', along with a cable which can then connect to a similarly-labelled socket on a Sony TV. This will activate the Sony TV's audio system as a fifth centre speaker.

Is that wise? Using the built-in audio on a TV for your centre largely negates the whole advantage of having four identical tonally-matched speakers all the way round your system. Samsung has a similar idea with its 'Q Symphony'-enabled soundbars that can use a Samsung TV as a centre speaker, and their Audio Lab Head confirmed to us that "people with audio sensibilities, like yourselves, won't want to use that option". We suspect it would be the same here, but since we didn't have a Sony TV to hand, we didn't test this, and can't say for sure.

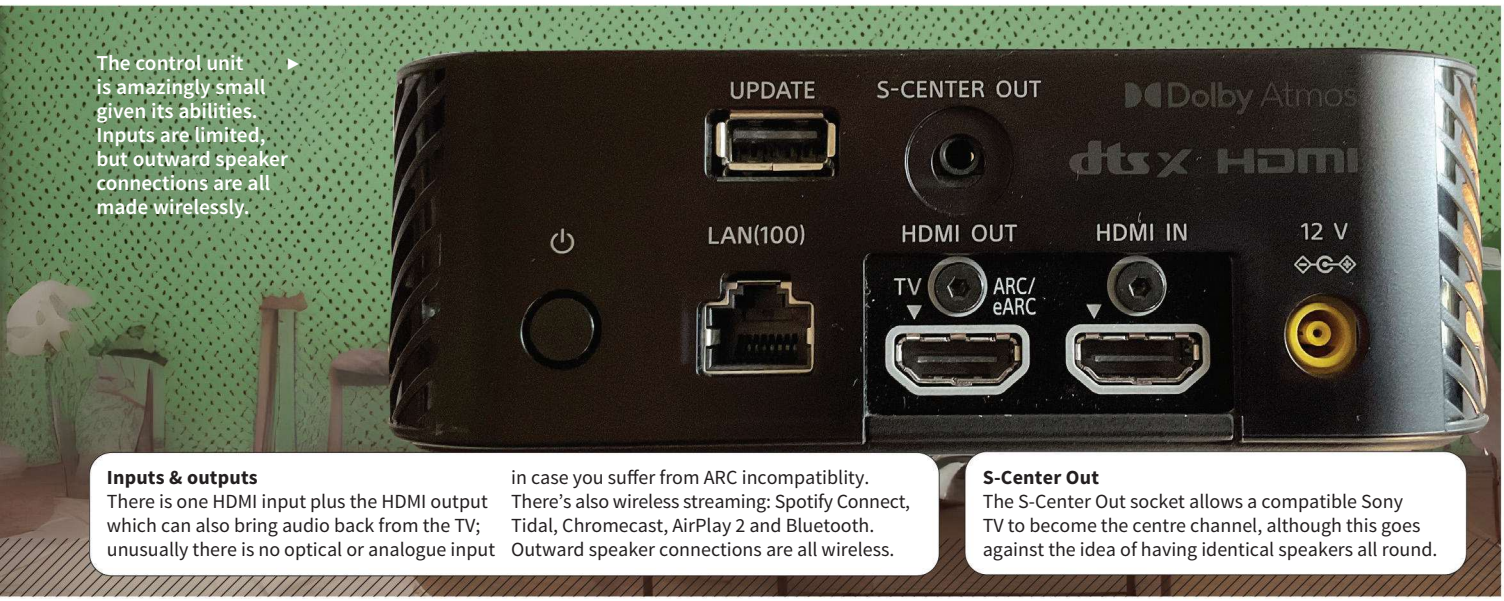
The speakers

Our first note on the four attractive white Sony speakers is that they are larger than they may appear in pictures. They weigh 2.7kg each, and measure around 31cm high, with a 16cm circular cross-section, though this flattens at the back, making room for a removable section on the rear with both a keyhole hanging point and a screw-thread mount. So it'll be very easy to get these speakers mounted on a wall if you so wish.

Each unit is a two-way speaker firing out on the level, but with an additional upfiring driver angled on the top surface, firing from a flared cabinet opening. The flare cuts the height driver's direct sound and aims to bounce its output from the ceiling to your position. So it's important to angle each speaker towards the listening position, not straight down the room.

The drivers themselves are Sony's X-Balanced speaker units with light but rigid foamed-mica diaphragms, here made particularly shallow to widen the directivity of the sound. The individual driver specifications aren't provided, but ye olde ruler method indicates a tweeter of around 18mm, with the main woofer being a vertical racetrack-shape, 70 × 60mm when measured between the centres of its roll surround. The angled top driver is also a slightly squashed square rather than circular, about 45 × 40mm. Sony claims the rectangular shapes maximise diaphragm area and reduce driver excursion while maintaining sound pressure, resulting in less distortion and greater vocal clarity.

The speaker grille material and the punched hole size were apparently the



The control unit is amazingly small given its abilities. Inputs are limited, but outward speaker connections are all made wirelessly.

Inputs & outputs
There is one HDMI input plus the HDMI output which can also bring audio back from the TV; unusually there is no optical or analogue input in case you suffer from ARC incompatiblity. There's also wireless streaming: Spotify Connect, Tidal, Chromecast, AirPlay 2 and Bluetooth. Outward speaker connections are all wireless.

S-Center Out
The S-Center Out socket allows a compatible Sony TV to become the centre channel, although this goes against the idea of having identical speakers all round.

360 Spatial Sound Mapping – what is going on?

We've avoided mentioning the headline ability of this system so far. Sony calls the HT-A9 a "**360 Spatial Sound Mapping Dolby Atmos®/DTS:X® Home Theatre System**". We've no problem with that in theory, but they explain it in some curious ways. For example: "*The system uses two microphones on each wireless speaker to measure the relative positions of the speakers and reproduce sound wave fronts from up to 12 'phantom speakers' (simulated sound sources) that are assumed to exist somewhere outside of the physical speakers.*"

So OK, with this system there are four clear phantom ceiling speakers, produced by bouncing sound from those four very real upward-firing drivers. And it's reasonable to refer to a phantom centre here, since a physical centre is omitted, assuming you're not using a Sony TV for that.

But then Sony says there are four phantom speakers positioned further back in space than the actual speakers themselves, and others that seem arbitrarily positioned, such as two more along the axis between the rear speakers.

If you're playing the phantom speaker game, why stop there? Any stereo pair of speakers can virtualise instruments at an infinite number of points between them, not just one. Sony picks two points between the rears, but it could pick 100. Couldn't this surround system — any real surround system, even a stereo system — be described as creating an infinite number of phantom speakers? So is this just marketing spiel to boost the stated channel count?

That would be almost absurd: the 4.1.4 layout is one of the things that first attracted us to the HT-A9. We love 4.1. It removes the problems of centre speakers (very few lounge systems use a centre the same size as the L and R), and we find 4.1 especially effective at delivering surround music mixes.

And as we'll hear, 4.1, with or without the added height, works just great here. This system is so solid in its realism that it seems a confusing tack for Sony to exaggerate things for marketing purposes.

We took exactly this argument to the local distributor Audio Active, asking for any more detailed explanation of 360 Spatial Sound Mapping. They put us in touch with Sony Australia, who called, and tried to talk us through the concept of synthesis monopoles, which they claim to be the crucial tech behind the idea of their phantom speakers. They shared Sony's patent (US 9749769 B2) from 2017 (filed 2015), for a method developed in Berlin (you can Google the original research) by one Franck Giron, who subsequently began working for Sony in Stuttgart, and indeed won one of their 'Outstanding Engineer' awards in 2021, in the citation for which we learn that the concept has also been applied to the in-car audio system of an SUV, India's 2021 Mahindra XUV700.

The patent is technical, but fairly clear. Giron's method is to consider each element in a sound mix as a discrete 'target monopole', and then to place this in its target position in a 3D space using a set of predefined 'synthesis monopoles'. In the patent the 'synthesis monopoles' are associated with the physical speakers in a system, so the speakers work together to map individual 'target monopoles', whether that's a centrally-placed singer in a stereo soundstage, or a 3D object in an Atmos mix. Indeed the whole 'target monopole' concept seems very similar in concept to the idea of 'objects' in Atmos soundtracks.

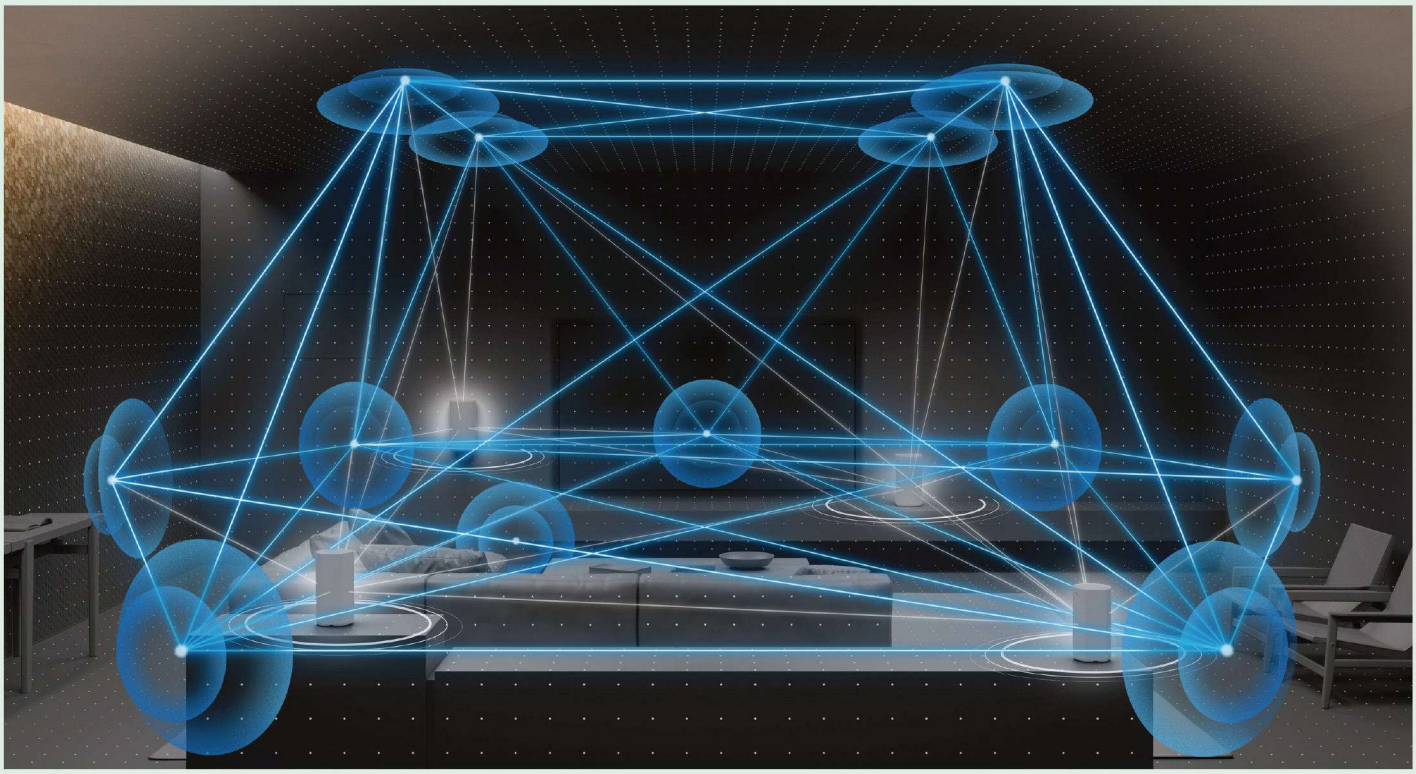
There is no mention in the 2017 patent of creating phantoms, or considering a phantom system as the basis for calculations, rather than the physical set of available drivers. But it seems that's what Sony has now done, or at least, this is our best interpretation of what is happening with 360 Spatial Sound Mapping.

First it imagines an ideal 12 'phantom' speaker system, and it calculates how incoming Atmos beds and objects should be mapped to be reproduced by that ideal system. Then it uses the information on the actual speaker positions, gleaned during the calibration process, to re-map that ideal system to the actual speaker positions. So the eight drivers (plus TV centre if used) are producing sound processed to emulate the 12 ideal phantom speakers.

We're largely guessing that what happens, and we could be wrong: the phantom speakers may be entirely a marketing invention. We can't see any advantage in the extra processing stage, given that Giron's research would work fine (and with less complexity) if applied directly to the available physical drivers. The sole advantage of the additional step would seem to be to allow the physical Sony speakers to be in the wrong place — i.e. non-ideal positions. Which is why we conclude that 360 Spatial Sound Mapping is more about the ability to correct for poor speaker positioning than of gaining any audio benefit from those 12 'make-believe' speakers. This will be very useful, of course, if positioning the speakers sensibly is a problem for you. Sony seems also to claim a wider sweet spot from the process, though we can't say we noticed anything unusual in this regard.

If you start with well-positioned speakers, then, we have our doubts that this system does anything much fundamentally different or better in rendering the objects and beds of an Atmos soundtrack than do other Atmos systems.

Postscript: Lest there be any confusion, Sony also has a music format called '360 Reality Audio'. That's different to what's going on here, although the HT-A9 can deliver 360 Reality Audio when fed from the subscription music services which carry it. On headphones 360 Reality Audio mixes seem wildly destructive to stereo positioning, far worse than Atmos mixes in headphones, of which we're no great fans either. But we do love Atmos music played through speakers, so we looked forward to trying Sony's flavour of immersive music on a greater scale (see main article).



subject of much experimentation, in part to determine their effect on high-res audio, for which the system is theoretically capable. Consequently the grille holes are slightly larger on the top than the sides.

The system power is stated only as a total of 504W between the 12 channels (so three amplifier channels in each speaker), and without specified envelopes (so we'd guess 10% THD allowed when measuring). As always, power ratings are useful only for comparisons within a brand, and since there's nothing on the market like the HT-A9, comparisons in this case are pointless anyway!

Setting up

There's one immediate and ironic caveat to the joy of having wireless speakers everywhere — power cables. This system needs one for each speaker, another for the control unit, and one for the subwoofer if you use it. So six power points please, all around the room! No power points behind your sofa? Then you'll be back to running cables across the room, but now chunkier power cables instead of signal cables. And Sony's supplied cables are only about a metre long, so extensions or power boards may be required.

We positioned and plugged in all four speakers, connected an AppleTV 4K to the HDMI input, and the HDMI output to our TV. We powered the control unit up last, as suggested in the manual. All four speakers immediately showed a green light, which is what you want, and we used the supplied remote control to navigate the on-screen display, starting off by resetting everything. We gave the control unit an Ethernet network connection (Wi-Fi is available), and began playback with some Atmos music selections from Apple Music, playing from the AppleTV 4K.

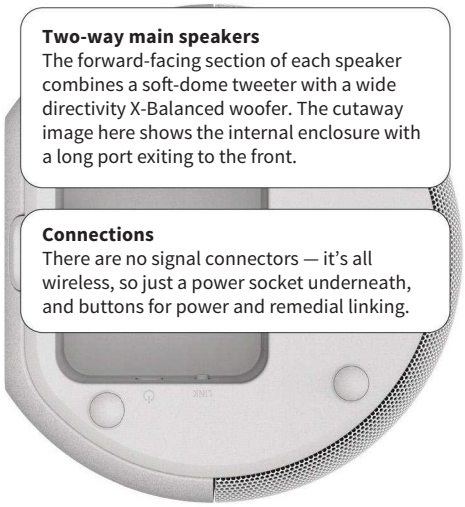
This was immediately effective, but a bit pale-sounding in the depths, so we invoked the HT-A9's built-in calibration system. At first we weren't sure how this could work effectively. There's no plug-in microphone included with the system, so how does it know where you're sitting? We assumed it must make use of a hidden microphone in the control unit, so we put the unit dead centre in front of the TV and made sure it had a clear line to each speaker. A few whoops and trills later, calibration was complete, but when we resumed playback, the whole system was hugely biased over to the front right speaker. What was up?

A little research revealed that the calibration system doesn't use a microphone in the control unit — it's far more sophisticated than that. There are two microphones in each speaker, used to determine the relative position of the speakers to each other, and the distance from each to the ceiling. And while we had clear sight between the control unit and each speaker, there was an obstacle between left and right speakers.

Upfiring Atmos drivers
Each physical speaker has an upfiring driver in the top, which bounces height information off the ceiling to the listening positions.

Two-way main speakers
The forward-facing section of each speaker combines a soft-dome tweeter with a wide directivity X-Balanced woofer. The cutaway image here shows the internal enclosure with a long port exiting to the front.

Connections
There are no signal connectors — it's all wireless, so just a power socket underneath, and buttons for power and remedial linking.



With this removed we re-ran the calibration, and bingo, a more balanced sound field.

Sony is keen to point out that this calibration can correct for quite badly-positioned speakers; indeed we think this may be the primary advantage to the whole 360 Spatial Sound Mapping concept (see panel left). Its versatility is emphasised by Sony's on-screen graphic during calibration which rather disconcertingly shows one front speaker high on a bookshelf and the other on a cabinet, while one of the surrounds appears to be sitting on a window ledge. It's not, we presume, suggesting that you *should* do this, rather indicating it's less of a disaster than usual if you do so. Despite this ability, we'd recommend as exact a rectangle as you can manage, and all four at the same height, because at the very least it will reduce the amount of processing the Sony needs to do to correct things.

Add the subwoofer

We ran about an hour of music and another hour of movie and TV sound before deciding that the optional subwoofer was most definitely required. There's just enough bass from the four speakers alone to provide an enjoyable experience, but no way to reliably increase the low-end. In this configuration the remote's bass adjustment has only three settings, with neither direction from the centre improving things — 'low' reduced the bass still further, and the extra push of the 'high' setting made things woofy and stodgy in the upper bass. 'Medium' proved the cleanest option.

Anyone seeking a full sound, then, and certainly the bottom two octaves of home cinema, should do as we did, and find that sixth power point to add in the subwoofer. There are two wireless models that can be used — the $449 SA-SW3 or the one we were supplied, the SA-SW5 at $809 (although as soon as we went to its web page, a load of pop-ups appeared offered price-matching and an offer of $400 cashback if bought with the HT-A9, making it cheaper than the cheaper sub — an offer which was set to expire well before you'll read this, unfortunately, but clearly there's wiggle room available).

The SW5 has a forward-facing 180mm (seven-inch) driver and a large downfiring passive radiator, with a quoted 300W of power. We began with it positioned slightly off-centre, but the pull of bass was so obvious (suggesting a relatively high crossover) that we swiftly moved it to dead centre; it is 40cm deep, potentially a bit intrusive, but it does have a lovely leatherette top. We recalibrated, but no test tones emerged from the sub, so we suspect this isn't included in calibration anyway. There's no way to manually tweak any settings, other than the bass buttons on the remote, which changed from the earlier three options to a proper 12-notch volume ramp. For our preferences we settled on the exact centre point of 6, and for most material found no need to mess with that position.

Listening sessions

First, some movie magic. With the subwoofer added to the four-strong speaker complement, we loaded up some Atmos soundtracks. And we must confess that early on we did think dialogue to be underplayed in that phantom centre position. Speech was not thrust forward, not honking with clarity as can be the case with a full-blown LCR system.

But this impression of centre lightness was perhaps because we'd just installed the Sony system into a space which normally has a large dedicated centre to which we are accustomed; also this was before we began listening with the subwoofer filling out the performance.

Once settled, the more we heard dialogue in the HT-A9's relatively reserved way, the more we became not only accustomed but accepting and approving of its more subtle approach. Dialogue was kept clear, and perhaps sounded more realistic within the mix, if a little less 'movie'-like than when given its own channel. Phantom it may be, but the centre here sounded perfectly real in practise.

After a week of casual use, first without and then with the subwoofer in the system, we sat down for some serious Sony sessions. We plugged a Sony UHD Blu-ray player into the control box's HDMI input and loaded the UHD Blu-rays of *The Lord Of The Rings* (nothing leaves us without some LOTR work!).

The rumbling depths under the doomed cavalry charge to Osgiliath in the third movie gave the subwoofer a fine workout, for slam as well as sheer depth when the first deadly arrow volley swept across the screen. The remote control allows you to nudge the bass level up and down from the comfort of your couch (the rear channel level as well), and as noted the bass control changes from three positions to 12 once the subwoofer is connected. In its centre slot of '6' the frequencies from the subwoofer were well integrated, making the all black-and-grey unit sonically invisible, while the level was high enough to deliver the sense of real depth without getting woofy or flabby on the slams.

With the bass nicely in place, the overall sound was genuinely impressive, remaining full and scaled to levels capable of exciting medium-large rooms without any loss of composure, and with a dynamic range that indicates a wealth of power reserves residing within the internal amps of each speaker.

With wireless communication all around, one consideration might be whether perfect timing is achieved between all the speakers, since timing errors would cause the imaging to fall apart. There seemed no worry of that here, as evidenced by strongly musical sections in *Return of the King*. When Billy Boyd's singing echoed over the top of Howard Shore's mournful orchestration, the A9 speakers delivered a notably refined presentation, not one thrust cinema-style from horns shouting look-at-me!, nor sounding in the least 'processed' in the manner of soundbars attempting to stretch sound beyond their abilities. (The only time we heard audible processing was when we used upscaling or fed it a mono soundtrack, see below.)

A wireless subwoofer is optional, but we'd say pretty much essential for the full experience available from the HT-A9 system. Two options are available; we reviewed the system with this SA-SW5.

The Sony system could swing the effects nicely, too. Aragorn's dream sequence had some massively powerful sweeps from front to back, and the surround image felt perfectly joined up thanks to those four identical speakers. Mind you, with no dedicated centre speaker those on the outside of wide seating positions will get the sound pulled a bit to their nearest speaker. Most people won't care about this, and if they do, give them a better seat. In the sweet spot the phantom centre is as perfect as for any good stereo system.

The calibrated surround levels seemed good for Atmos soundtrack levels, but with that third set of volume buttons on the remote control for the rear level, you can easily choose to push the rears a little 'hot' if that's your preference.

Anticipating the release of *Avatar 2*, we loaded the Blu-ray of *Avatar 1* — ah, regretfully having to decline the 3D option in these enlightened post-3D days. But even with a 2D image, the Sony system's 3D sound kept us connected to that magic world for what ended up being the whole movie. We had forgotten *Avatar*'s opening real-world sequences, which the Sony system rendered with substantial scale, the subwoofer rolling out the deep bits, the orchestration spacious and spread front to back, and some slamming dynamics for streaking planes and slamming doors. Sony's system formed an impressively immersive hemisphere of sound throughout, and well-detailed too, so that while helicopters whirled during the first landing, there were still diamond-hard details to be heard pinging out in the forest.

We kept being impressed by how well the orchestral soundtrack remained entirely distinct from, say, the mayhem when Jake's avatar is attacked by passing Pandoran wildlife, or the equally-impressively sound-scaped river sequence that follows — this action was spread across all channels, yet the supporting music soared on without a dent.

Not entirely without a glitch, however; we could hear regular audio drops between the front speaker pair. Just a glitch, then gone, and when we put a stopwatch on it, the drops were irregular, sometimes a couple of minutes apart, sometimes far more.

We had noted a section in the manual about this, and there's a setting to prioritise 'connection' over 'sound' if you're experiencing transmission glitches like this. Sony doesn't state what transmission quality it uses between its control box and the speakers (even when we asked), nor does it indicate what sacrifice in quality you'd make by setting the priority to 'connection' rather than 'sound'. So we first went through a wireless optimisation process, which is another suggested way to fix things up. After this, the glitches seemed very occasional, rare enough to ignore.

Sound modes

We confess that we were already bemused by the three choices of sound modes: 'Cinema', 'Music' and 'Standard', the last of which displays on-screen as 'Standard Surround'. There's also an 'Auto Sound' which makes the choice for you. Finally there's the button marked 'Immersive AE'. You can use the remote to select between the three settings — but what are they doing exactly? Sony's manual is pretty fluffy about this, and notably fails to tell you which is most 'pure' or 'direct'.

The 'Immersive AE' seems primarily about upscaling to use all available drivers, including adding height output to soundtracks which don't have it. With Atmos material, both 'Cinema' and 'Standard' modes lock this Immersive Audio on, displaying "Immersive Audio Enhancement On (Fixed)". So these modes are presumably therefore not pure.

With 'Music' mode engaged, the Immersive Audio becomes optional. So our pick for Atmos purity is 'Music' mode selected, and 'Immersive AE' off. That's how we listened for most of our time with the system. Invoking the other modes or Immersive AE certainly thinned the central dialogue, and when working on two-channel soundtracks also lent an out-of-phasey nature to the sound, usually a sign of excessive virtual trickery. Returning to clean 'Music' mode, everything would snap back in to focus.

We were initially confused that even in this apparently purest mode, if you press the 'Display' button there's an on-screen message saying '*Atmos + 360 Spatial Sound Mapping*'. Why mapping? Can't you turn this off too? No, it's always mapped, because this is the correction for potentially poor speaker positioning. So the 'Atmos + 360 SSM' is as pure as it gets.

Things would be easier if there were a remote button marked 'DIRECT' to turn off as much additional processing as possible. (Many Sony soundbars would similarly benefit from this.)

Just to add one more level of confusion, the manual says: "*The Immersive Audio Enhancement function is available only when [Audio Settings] - [Sound Effect] is set to [Sound Mode On].*"

So we tried to turn 'Sound Mode' off, but there's no 'off' option in the menus — only 'On', Dolby Virtualiser or DTS Virtualiser. We asked Sony and they said to have a play with different material, see what works best. The Dolby option sounded appallingly woofed up (which might be fixed with recalibration), so we stuck with Sound Mode On and our preferred 'Music' option.

Stereo sound, and music

We investigated how the control unit might treat stereo music and soundtracks, and those without genuine height content. There's certainly not the granular control of processing you get in an AV receiver, and the combo of settings can again get confusing. But basically our preferred option for purity proved itself again here: stereo remains stereo when played with the 'Music' sound option and Immersive AE off. The system sounded solid and clean, with a tight bass (sub notched back to 5, depending on material).

We should note that stereo music playback — perhaps of everything, perhaps mainly of compressed files — benefits from Sony's DSEE (Digital Sound Enhancement Engine), here in a DSEE 'Extreme' implementation. Our respect for this process grew after we talked some years back with senior Sony engineers who told us they can neither measure nor hear the difference between a DSEE-upscaled 256k music file and a full high-res version, except in rare highly density recordings. It's quite the statement (because then why bother with high-res files at all?), but that was straight from the mouth of Sony's Chief Sound Architect Koji Nageno, with no marketers placed between us, so we believe him.

Of course if you listen to music in stereo, you'll be wasting eight of this system's drivers. So you can have some fun, punching the Immersive AE button to have the sound sent everywhere, including upwards. This, however, proved to be the HT-A9's least successful trick, sounding nastily phasey from the central listening position, the vocals often sucked back and a general artificiality introduced which didn't help the music get through at all.

Instead of Immersive AR you could punch one of the surround modes — these did much the same, but 'Cinema' sounded a little more solid, and did some interesting if unstable panning with the opening elements of The Who's *Baba O'Riley*.

The lesson was clear, however; stereo music sounds best with everything off, and that 'off' is again achieved by selecting 'Music' sound mode with no extra buttons.

With stereo TV sound, you might get away with some additional processing; the weirdness was less noticeable with Immersive AE applied to *Gardening Australia* on ABC iView: the dialogue was thinned out, but the virtual suckiness was less evident, and the Sony system did a nice job lofting some insect noise above and around the complete soundfield. So there is something of a choice between purity and processing here, between the excitement of immersion and the isolation of minimalism. Still, whenever music was used (as it is in most shows), straight stereo remained the best option.

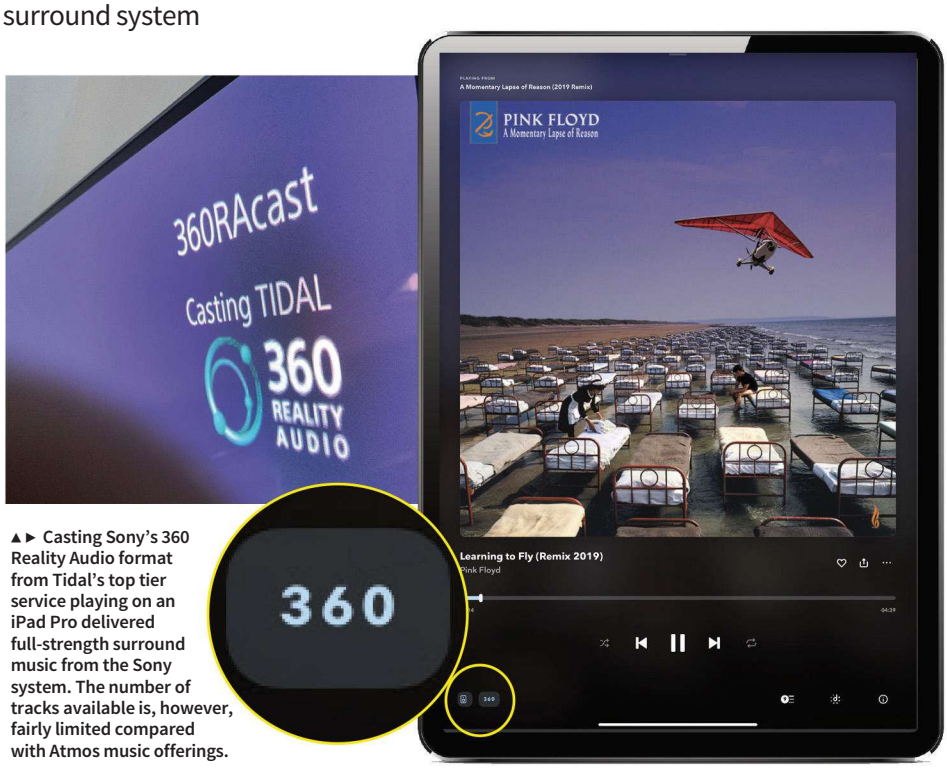
The good thing here is that the options can be enjoyed at the press of the relevant remote button, so you can play with it all, and choose whichever you prefer.

One film that benefitted nicely from surround upscaling was Eric Serra's dreamy soundtrack to Luc Besson's underwater nature opus *Atlantis*, played from Blu-ray, but with only a stereo soundtrack. There's no dialogue to cause problems in this movie, and the orchestra avoided phaseyness to spread seamlessly and immersively through the room. The upscaling here seemed very musical; a deep drum that accompanies a watersnake sequence 17 minutes in kept both its firm image within the soundstage and a clear sense of its surrounding acoustic, something you might expect to suffer from such processing. So in this instance the Sony system was mapping the available information to its full driver complement, and it sounded great, though it was still obvious when we punched the 'Music' key that things become richer and more solid when the processing was kept to a minimum in straight stereo.

The system really doesn't know what to do with a mono signal. With 'Auto Sound' selected, all the surround and upscaling it applied did horrendous stuff to the mono Blu-ray soundtrack of *Casablanca*, so that a policeman's whistle came from the left when he was on the right of the screen, and there was that general phasey nasal feel to it all. Again press 'Music' and a proper phantom centre snaps into full focus; this is the only option for mono, should you encounter any!

The control box can also handle DTS:X, not that it'll get any coming from your TV (very few TVs will pass DTS:X from connected devices, as this alone requires a licence fee) or any streaming service (none carries DTS:X). But there are some discs with DTS:X, and more with lesser DTS, including some of our favourite surround music mixes, which come in DTS 24-bit/96kHz 5.1 even though they reside on lowly DVDs.

One such is our favourite of all surround testers, the Beatles 'Love' soundtrack to the Cirque du Soleil show, the first time Giles Martin got to mess with Beatles originals, and the only time he went full throttle on the remixing, combining elements of multiple songs and slinging them all over the five



▲► Casting Sony's 360 Reality Audio format from Tidal's top tier service playing on an iPad Pro delivered full-strength surround music from the Sony system. The number of tracks available is, however, fairly limited compared with Atmos music offerings.

channels. This sounded so glorious through the Sony system that we played the whole disc.

Interestingly with Atmos music from Apple Music (via an AppleTV 4K 2021 plugged into HDMI), we found that the rear channels needed to come up significantly to deliver a full signal. This was evident on the new Atmos mix of The Beatles' 'Revolver'. In *Taxman*, the response lines of 'Taxman Mr Wilson' and 'Taxman Mr Heath' have been mixed to come from the rear channels, but we could barely hear them with the rears set to their calibrated midpoint volume, and ultimately we settled on having them nearly maxed out for Atmos music listening. Yet this setting was clearly too hot for Atmos movies. This difference is strange, but it could be an Apple thing, or even a Giles thing.

The Atmos version of 'Abbey Road', in contrast, balanced best with the rears down to 10. So all those extra volume buttons on Sony's remote do come very much in handy here. Enjoying the Beatles-fest we played the Atmos 'Abbey Road' from end to end; it sounded magnificent, not too extreme in its mix, rather enlarging the original to a truly immersive presentation, and reaching a crescendo in *The End*'s guitar battle and surging orchestral close. Then after a brief pause Paul pops up to sing *Her Majesty*, circling the system anticlockwise from rear right to rear left as he does, in a nice piece of joystick-wielding surround work from the younger Mr Martin, perfectly panned here around the Sony's four (not 12) speakers.

While we were enjoying more surround music, we turned to Sony's '360 Reality Audio' music format. The link to this on the control unit's "Listen" menu tells you it is available via Nugs.net or Tidal (earlier it had also said Amazon Music HD, but this option seemed to vanish during our testing period).

The HT-A9 can't play from these directly; you must use the app on your phone or tablet then Chromecast it to the control unit.

So we paid our hefty $24.99 Tidal fee to revisit the top tier of Tidal, which is the only way to hear its Atmos and 360 Reality Audio, and we logged on. We had hoped to play from the Tidal app on our AppleTV, which outputs such great Dolby Atmos from Apple Music. Sadly, Tidal's app wasn't up for that, but the format worked quickly when Chromecasting from the Tidal app on an iPad Pro. (One possible glitch warning: from an iPhone 8, the HT-A9 recognised only volume levels between 90 and MAX, so that we were near-deafened until we turned it off.)

The tracks sounded great, spacious, making use of all drivers in the HT-A9 system. And interestingly, this was the only time Sony locked off all sound modes and the Immersive AI button too: 360 Spatial Audio is perfect, they are saying, don't mess with it! Shame there's so little of it; as of September 2022 Sony was saying there were "more than 1000 tracks", which would be about 0.001% of the tracks available on Tidal. Atmos has many many many more, winning this battle by so great a margin that one wonders how long Sony will persist with the format.

Still, the experience reminds us to mention that you can stream any music via Chromecast, using Alexa, or simply Bluetooth, this last supporting SBC, AAC, and LDAC, while outgoing Bluetooth can address wireless headphones using SBC or LDAC.

Before closing we should praise Sony's excellent remote, about two-thirds traditional full remote size, and with everything where it should be, including differentiated volume buttons in a nice centre line with the mute and Home buttons. Only a backlight would improve it. The control unit has a short LED display on its front, indicating things like 'Home' and 'HDMI', though it could usefully blank this once playback is under way.

Verdict

We don't fully buy into the 12 phantom speaker stuff touted on Sony's website; indeed we feel this confuses and distracts from Sony's huge achievement here in delivering an easy-to-use, easy-to-install surround system using only four speakers (or eight, really, given the upfiring drivers) and a subwoofer.

With these Sony certainly achieves its stated "360 Spatial Sound Mapping", delivering a full room of immersive sound, especially persuasive with Atmos soundtracks and music. Only the upscaling of lesser material varied in its delivery, so that we found ourselves hunting for purity by mashing through the remote control's soundbar-style excess of processing options.

When kept in its purer modes, the HT-A9 is no less than a radical reinvention of living room surround, doing what it has been so cleverly designed to do, removing the need for an AV receiver, using wireless signals to do away with signal (if not mains) cables, and sounding fabulous. And even with the subwoofer, which we think essential, the price is amazing given the results delivered. ⊣

SPECS

Sony HT-A9 $2699 (+$809 for subwoofer)

Inputs: 1 x HDMI, HDMI eARC, Wi-Fi/Ethernet, Spotify Connect, Chromecast, AirPlay 2, Bluetooth (SBC, AAC, LDAC), USB-A (updates only)
Outputs: HDMI + eARC, Bluetooth (SBC, LDAC)
Speaker dimensions: 16cm diameter x 31cm high
Speaker weight: 2.7kg each
Subwoofer dimensions: 277 x 409 422mm
Subwoofer driver: 180mm
Subwoofer weight: 13kg

Contact: Audio Active
Telephone: 03 9699 8900
Web: www.sony.com.au

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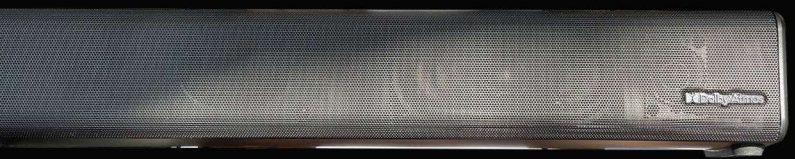
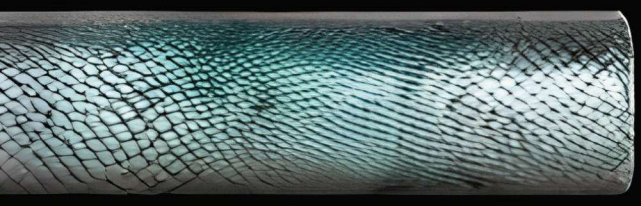


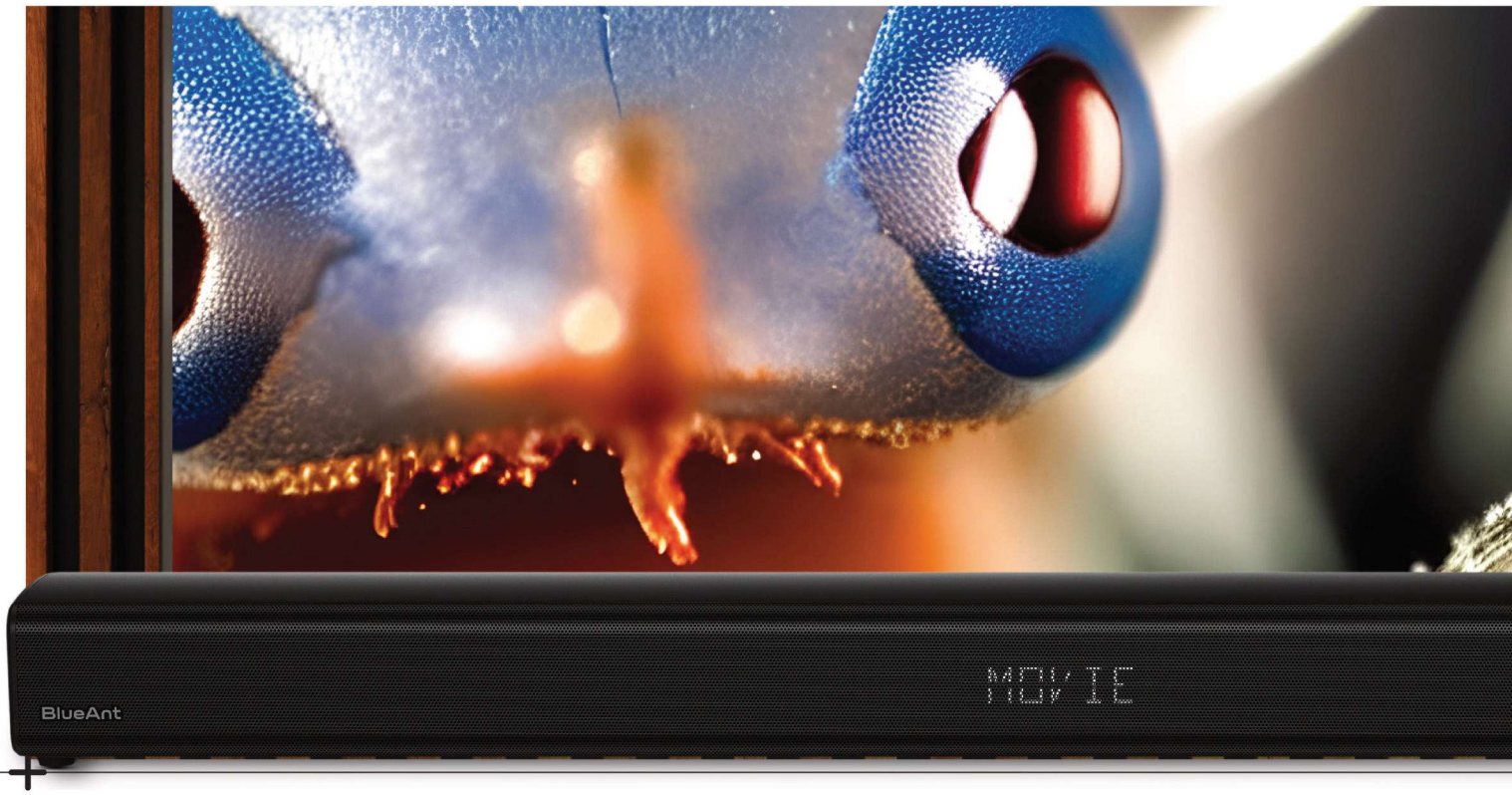
▲ BLUEANT XT100

▲ YAMAHA SR-C30A



SIMPLER SOUNDBARS

We recently reviewed a set of soundbars loaded with bells, whistles, and fairly hefty price-tags. But can soundbars fulfil their sonic purpose at a lower level? Here are three that aim to do just that, from BlueAnt, Samsung & Yamaha.



BlueAnt XT100

We love to hear soundbars that work without a subwoofer, as they can simplify the system considerably. The question then is whether they can also deliver the sonic goods.

One of the reasons we called in this soundbar was the honesty of its marketing. There on the box and on the website it says "2.0 soundbar". It doesn't say it's going to bounce sound all over the world. It does make a big thing about having Dolby Atmos, but that's OK — Atmos can be decoded for any speaker configuration from mono to, well, 24.1.10 was the original notion of a domestic limit, but dedicated processors can take you even further now, if you wish. So here we have Dolby Atmos decoding, to a stereo soundbar. There does seem some kind of processing which tries to achieve a sense of virtual height, since a note on the box says "Atmos for vertical surround", and there's a "vertical surround" button on the remote control — yet no upward firing drivers, since it is, as it says, straight stereo.

Another reason we were keen to hear this bar is that BlueAnt is Australian, based in East Doncaster, Melbourne. The company's XT100 soundbar is assembled in China, somewhat inevitably, but it was designed here in Australia.

And a third reason — no subwoofer. It's hard to design a soundbar which delivers full sound without an associated subwoofer, but the ones that manage it are valuable indeed, as they deliver the true simplicity which soundbars were always supposed to offer.

Build & facilities

The XT100 is a nicely solid bar; it is 87cm long and just under 8cm high, which should put it below the bottom of most TVs that are raised on a stand. All the screws, wall-plugs and brackets you'd need for wall-mounting are also included. The front is high enough to contain an inch-high white LED display, so that when using it we were reminded of Samsung's early Californian bars, which had similar displays. Here you can also dim the display between three brightnesses, but not off.

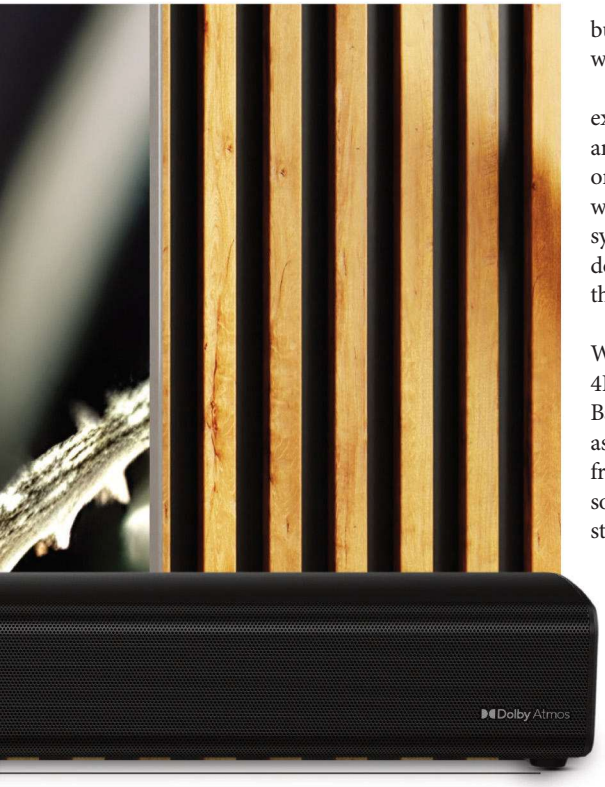
The casing is solid from top to bottom, with a cut-out at the back for connections, four handy press buttons on the right end, and the drivers all in the front, facing forward and out. You can see these through the grille with a torch; there are tweeters out wide where the BlueAnt and Dolby logos sit at each end. Then midway to the middle, each side has a racetrack-shaped mid-bass

SUMMARY

BlueAnt XT100
soundbar
Price: $349

+ No subwoofer required
+ Some amazing immersion
+ Two extra HDMI inputs

– Fairly average for music
– We did miss movie bass



woofer some 100mm wide and 40mm high. The cabinet ports through deep holes either side of the central display.

The lack of a subwoofer doesn't mean that everything else is pared back in terms of facilities. The soundbar has the usual HDMI eARC socket to connect with the ARC-compatible (or preferably eARC-compatible socket) on your TV. Select the control button marked 'HDMI eARC' (most brands use the rather shorter 'TV' for this), and the bar should play whatever you watch on the TV from other connected sources, free-to-air, and streaming services.

But there are two other HDMI sockets as well, additional inputs for external sources, and in this way you can be sure of getting any full-quality Atmos from, say, Blu-ray discs, as opposed to the compressed Atmos used in streaming. Few bars at this price offer additional inputs like this.

And more — in case your HDMI ARC fails, there is an optical input, a minijack analogue input, even a digital coaxial input, which is very unusual on a bar. You can also stream to it via Bluetooth, and there's even a USB-A slot to play music from a stick, though only in MP3 format, says the manual.

Performance

As is mysteriously compulsory on soundbars, there are various sound modes available from the remote control. As usual you need to work out which one is best, with minimal guidance. Your choices are 'Voice', 'Sport' (which displays as 'Game'), Movie, and Music. There are also bass and treble controls (-5 to +5), and that 'Vertical Surround' button which we kept peering at because the writing's so small.

The modes all do about what you'd expect — more edge for dialogue in 'Voice', and the least processing, or so it sounded, on 'Music', though overall the differences were relatively minor compared with some systems. 'Vertical Surround' rarely seemed to do much except put a bit of phasey stuff on the centre, so we largely left it off.

Give it Atmos and this bar can impress. We played the very opening of *Elvis* from 4K Blu-ray, and the atmospheric choir over Baz's bejewelled opening credits was about as effective in rendering a genuine surround from stereo as we've heard, particularly so given the central dialogue stayed rock-solid centre, while the echoed-up bits — a snatch of *Suspicious Minds* in this sequence later circles the echo chamber and again it wrapped around us to remarkable effect, despite the bar having no wide or height drivers. Attempts to do this 'virtually' would normally have a deleterious effect on image stability, or a nasty out-of-phase effect that would have us shaking our head like a dog. Here it seemed just a spooky echoey effect that was part of the movie. Much of the credit for this effect must go to the sound engineer and the magnificent mix of this movie, but kudos also to the XT100 for delivering the effect so well. When Parker (Hanks) first hears *That's All Right Mama* on disc and radio, there's a build-up into the Hayride sequence which positively swirled with excitement and impact around the XT100's soundstage, yet dialogue was kept audible throughout.

To see how much of this unusual ability to widen and throw might carry to other material, we put on an audio DVD of the Beatles' 'Love', which has Dolby Digital and DTS-HD high-res mixes of the whole set, and a right rioting surround party it is through a 5.1 set-up. We play the DTS for choice, but here it emerged in very small stereo. We switched to the Dolby surround mix and there was a sudden explosion of sound, with quite ridiculous width, beyond our reference speakers on their stands, let alone the bounds of the BlueAnt bar. It didn't put the surround elements behind us — the crowd on *I Want To Hold Your Hand*, which is pure rear channels in the mix, was firmly at the front. And it wasn't entirely natural, not as hi-fi musical as a good pair of stereo speakers. So it's processing, and it's not entirely pure. But we must say it's some of the best results we've heard from such things.

How about that bass, with no subwoofer? Of course we missed the depth we'd enjoy from a subwoofer, the real emotion-raising impact of low frequencies. Here there's enough of a suggestion of the low-end to keep the sound balanced, but it couldn't be called a strength. This bar's real trick is the often spooky sense of envelopment it can create, along with the drive with which it can drive a soundtrack along.

We watched a chunk of *Jumanji: Welcome To The Jungle* (2017), again in Atmos (which scrolls reassuringly across the front display when received). The Jumanji drums were remarkably full for a bar-only delivery, though without the bottom octave that generates the real anxiety, and in action sequences again things went nice and wide.

So far so good, but most of the world is not Atmos. On daily duties, not everything went so well. For general television it was a little lean, if never quite thin, and Jeopardy's late Alex Trebeck was a tad spitty too; the sound modes didn't help so we just softened the treble a notch, and boosted the bass too, for good measure, both just a single notch. It was still hard to enjoy, a little shouty and insistent.

Music had the same problem when sent via Bluetooth, sounding too boxy on a lot of material, even with 'Music' selected and processing off, so that we wouldn't recommend this bar as your main music system. Wet Leg's *Chaise Longue* motored along well enough, but vocals were soft and once the track took off the bar wasn't able to get into the details of the separate layers.

Conclusion

The XT100 achieved some remarkable immersion with Atmos soundtracks, though it did less well on casual TV duties and music streaming. It needed a little more musicality and all-round performance to gain a full recommendation, though we do like the price, the design, the good connectivity, and the bonus of BlueAnt's Australian-ness. +

SPECS

BlueAnt XT100 $349

Inputs: HDMI eARC, 2 x HDMI, optical digital, coaxial digital, minijack analogue, USB-A, Bluetooth

Outputs: 1 x HDMI ARC

Soundbar dimensions (whd): 870 x 76 x 106mm

Weight: 2.5kg

Contact: BlueAnt

Web: blueant.com.au

Yamaha SR-C30A

Yamaha's small soundbars have done well on their own. The SR-C30 also brings a subwoofer, despite its price of just $399.

SUMMARY

Yamaha SR-C30
soundbar + subwoofer
Price: $399

+ Good sound for movies & TV
+ Subwoofer included
+ Set and forget

– Variable for music
– No height or surround

There was an initial disappointment here, because we'd been hoping this soundbar would arrive in red. We'd been told they were coming in red, and we ran news last issue telling you they were coming in red.

But it turns out not. Instead the little SR-C20 compact soundbar ($279) has come to Australia with red and white colour options. When we reviewed that little bar-only solution a year ago we labelled it a minor miracle. And now in red: nice. The new SR-C30A, however, is coming to Australia in black only.

It doesn't much matter: soundbars are probably better in black, while for some strange reason, few people choose to buy red hi-fi anyway, even if it looks great in a shop window (or a magazine). So we got over our disappointment in the oring black and started untucking tabs from the fairly compact Yamaha delivery box, which includes, in this case, a wireless subwoofer to work in concert with the compact bar. Let's dig into its secrets.

Build & facilities

So we have a small (black) bar 60cm long and just 6.4cm high, making it fine to sit under the screen of most stand-raised TVs. The subwoofer is also compact, with useful versatility in being able to either stand vertically at 34cm high, or be lain sideways; it ports to the front and appears to fire to the right when standing, so positioning will be pretty versatile within those limits.

The bar is strictly stereo, with laudably few efforts to pretend that it's going to magically throw sound around the room, just a mention of a "Yamaha Original 3D Sound Field Technology"; even this is described as "crafting a detailed and lively sound field" rather than claiming faux immersiveness or fake surround sound.

That's as it should be. Yamaha's focus is instead on what it calls 'True Sound', by which it means detail, clarity and realism.

The more we looked at the bar, the more it reminded us of the SR-C20A. It has identical dimensions, including the depth of 94mm, and identical inputs too, which are a little more generous than many affordable soundbars, if not quite as well-equipped as the BlueAnt bar in this group. The Yamaha offers HDMI ARC to play from your TV, plus not one but two optical digital inputs, an analogue input, and the wireless addition of Bluetooth streaming (SBC and AAC codecs available).There are four 'sound modes', also very similar to those on the C20A, and other similar adjustments.

But the two bars are in fact different: this is not just a C20A with a subwoofer. The C30A lacks the large woofer driver inside the C20A bar, because here the subwoofer will be doing the heavy lifting. That also makes the C30 bar somewhat lighter, by half a kilogram, and also potentially allows the stereo drivers to work in a larger portion of the cabinet. The crossover will also be different, and Yamaha confirms that the unit has been re-engineered to account for the subwoofer.

Even so, there's just $120 between the two models. The extra money may lose you one driver in the bar but

it gains you an honest-to-goodness subwoofer to cover the deeper bass frequencies. A hundred bucks is bugger all for a subwoofer, yet the wireless unit that comes with the C30A is solid enough, with MDF construction and even an aesthetic fabric over its front baffle, where the port exits. It is 34cm high and 16cm wide (36cm deep) and, as mentioned, Yamaha notes that for convenience it can be used lying low rather than standing up, and in one picture (see below right) they even show it tucked into a cabinet. This would leave its 13cm driver on the top, firing almost straight into a shelf, so we're not sure that would be our recommendation. Ideally give it space, whichever way up you use it, and keep it central, since a small subwoofer is more directional than a large one.

We rarely talk about soundbar power levels, because the manufacturers hardly ever quote them; they just don't look very impressive. So credit to Yamaha for stating that here there is 2 × 20W maximum effective power, quoted into six ohms at 1kHz while allowing 10% distortion (THD). Measure that at hi-fi levels and the watts are likely in single figures — though here with the additional power in the subwoofer, quoted as 50W into three ohms, again with 10% THD.

Connections

The connections bay at the rear has the power socket at far right, and the HDMI ARC connection on an angled side of the bay. The four other sockets are a pair of optical digital audio inputs, one intended as a fallback for TV connections and the other for an external device (there's one optical cable in the box, no HDMI), along with a minijack analogue input and a USB-A slot into which updates can be loaded, since this bar does not network so can't receive updates from the internet. Thre's one more wireless connection, with the SR-C30A also having Bluetooth onboard for music streaming, with SBC and AAC codecs available.

Performance

The package is nicely portable, and the bar which emerges is nice and dinky. Its fabric grille wrap is thick, so that it was hard to see where the two 46mm speaker cones are positioned. At first we thought they might be on the spacious top surface, but no — running our ear along the grille, the drivers are facing forward near the outer edges of the bar. We plugged up the subwoofer too, and placed it centrally, and made the signal connection from the bar with an HDMI cable to our TV's eARC socket. Power on.

This bar does not include Dolby Atmos processing; it has Dolby Audio, which covers Dolby Digital and Pro Logic II. In that regard it won't matter if your TV supports eARC or only ARC, or if you choose to use the optical input marked 'TV' instead. This is always reassuring, as our experience with ARC and eARC connections working remains at about 75%, even after optimising TV settings. Some TVs just won't talk nice, so options are good.

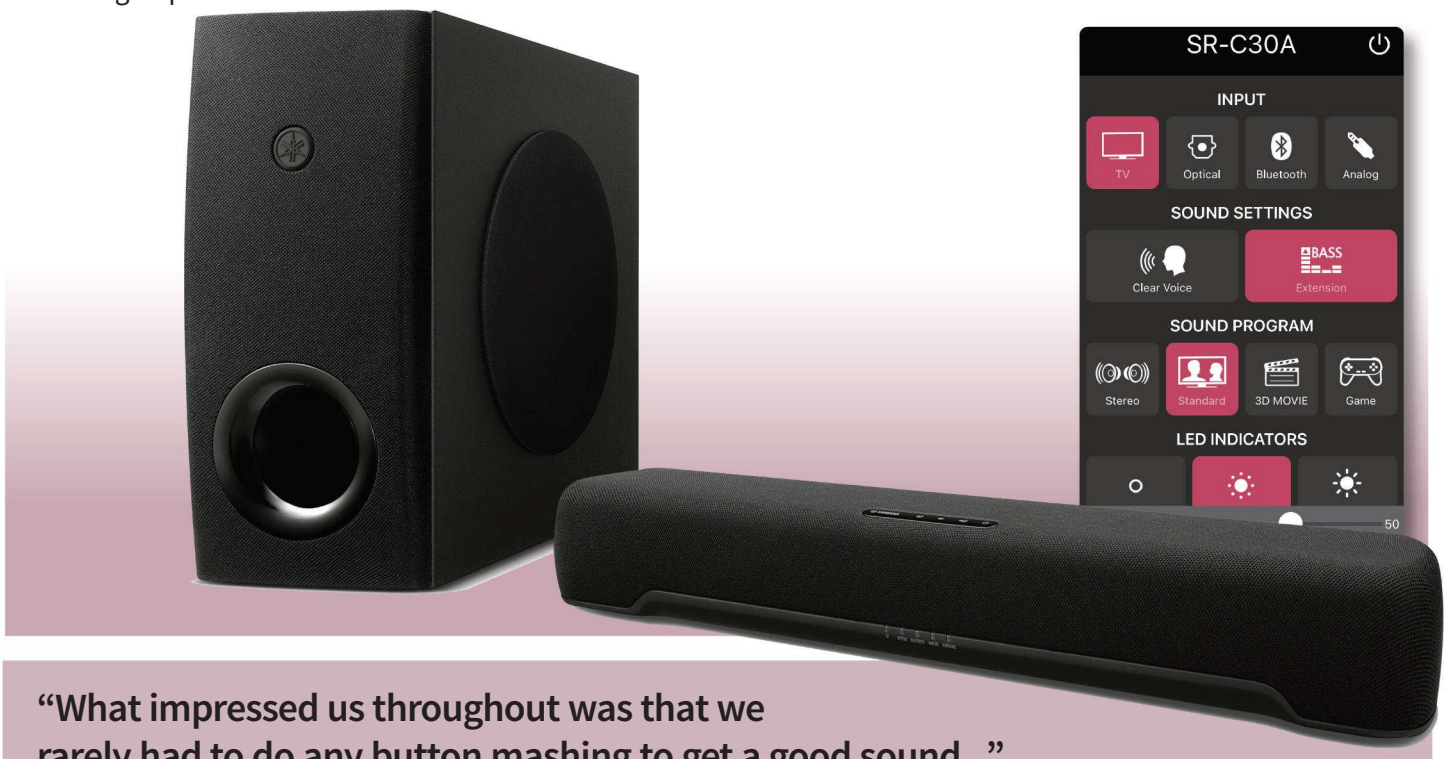
As soon as sound emerged from the SR-C30A bar and sub, it was clear there was both roundness and depth to their sound. Indeed a little too much depth at first for the casual TV programming that first played, but we found that the 'Bass Extension' option was engaged, and when we turned it off, the sound became simply suitably rounded.

However, it's not easy to tell by looking whether Bass Extension is off. The bar has no text display, only a group of LEDs on the front that flash either three times (which means you've turned a function on), or once (for off). You get the same signal for selecting the Clear Voice option or one of the four sound modes.

Yamaha has a neat solution for this limited information — an app called SB Remote (but *not* Yamaha's Soundbar Controller app, which requires Wi-Fi). SB Remote connects to the bar via Bluetooth and shows you all the settings and their status, letting you change them easily. In combination with the excellent remote control — an unusual but very clear wide short remote — this puts all control and knowledge at your fingertips.

What impressed us throughout was that we rarely had to do any button mashing to get a good sound. The Standard and Stereo settings, Bass Extension off, provided clear

▲ The subwoofer with the SR-C30A can be used either vertically or horizontally, though its driver fires from the upside when lying down, so it will need some space to perform.



"What impressed us throughout was that we rarely had to do any button mashing to get a good sound..."

and strong sound for pretty much everything. And it made quite the contrast with the BlueAnt bar, which was exciting with its width and its throw but could sometimes hit a harsh note. The C30A just rolled everything out with a nice balance, and could be lifted to a reasonable level too, while Yamaha's 'Adaptive Low Volume' managed to keep things solid even at low volumes.

While warming up the bar we watched several dialogue-heavy episodes of *Mythic Quest* on AppleTV+, presumably processed without the Dolby Atmos metadata in its DD+ wrapper but delivered here clearly and strongly in 2.1, voices nicely toned, just a hint of sibilance at higher volumes. This may or may not be Yamaha's 'True Sound' philosophy in action!

How does it hold together with something more dramatic? Well, S1EP3 of *House of the Dragon* opens with smoke, fire, chomping crabs and the arrival of a dragon; the Yamaha bar/sub combo had no trouble making this sound big. The whole image was firmly anchored to the bar, however, with relatively little sense of space in the soundstaging. And in the big moments — the boar attack, the deer kill — there was that strength of sound, but not the slam with which a bigger faster subwoofer can hit you suddenly in the guts.

The sound mode labelled '3D Movie' would seem a go-to for something like this, and it does open things up with what we presume to be a 'virtualised' width, but also thinned dialogue a little and put a light false hint to music content, especially the strings that surge regularly through the *HOTD* action. It's the usual choice: a little more immersion, or a little less clarity; neither fails notably, so you can make the choice yourself by switching from one to the other.

And if you suffer any latency — and there was just a little here when we switched to the optical connect — try the 'Game' Mode.

We spent time also playing music to the SR-C30A by Bluetooth; here the effect of the sound modes were still more apparent in the way '3D Movie' thinned a central vocal and phased up the left and right; even 'Standard' got a little too edgy. 'Stereo' is the only choice for music playback.

That 'Bass Extension' had proven useful on the C20A with music, but on the C30A the additional subwoofer bass it added was just excessive and bloated. Rather we found ourselves using the subwoofer volume controls on the remote to tweak the subwoofer to work best with different material. It was a mixed bag in terms of musicality — some successes, like Tom Petty's *Running Down a Dream*, which pulsed along with a string bass and clear vocal. But also many less enjoyable: we never struck an enjoyable balance for Wheatus's *Teenage Dirtbag*, which emerged with an overbitey vocal while any attempt to get a solid bass led to bloat. The Monkees' *I'm A Believer* played softly with any trace of its admittedly subdued bass line absent. Overall the results were listenable, but we wouldn't recommend using this as your main music system.

Conclusion

Yamaha's $279 bar-only SR-C20 is ideal for smaller spaces. This SR-C30A adds a subwoofer for just $120 more, a gift of far greater scale as well as far greater depth. It's a combination that won't bounce flashy sound all over the room — this is a TV audio solution, not a home cinema solution, nor really a music solution.

But as a TV audio solution it is excellent, with solid sound able to power along a big movie soundtrack with clarity and power, if not the width and height of a larger and costlier system. Because price is definitely one of the stars here — $399 is a bargain for a soundbar and subwoofer which do an impressive job within their limits. ⊣

SPECS

Yamaha SR-C30A $399

Inputs: HDMI ARC, 2 x optical digital audio, minijack analogue, Bluetooth (SBC, AAC)

Soundbar dimensions (whd): 600 x 64 x 94mm

Subwoofer dimensions (whd): 335 x 160 x 364mm

Weight: 1.3kg (bar), 5.7kg (subwoofer)

Contact: Yamaha Music Australia

Telephone: 1800 805 413

Web: au.yamaha.com

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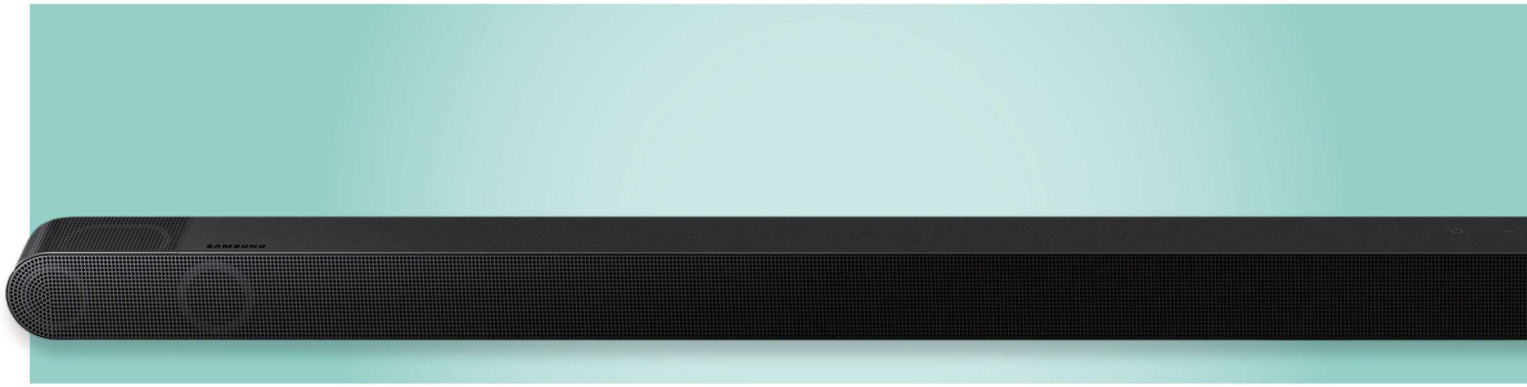


Samsung HW-S800B S-Series

An 'Ultra Slim' bar means less room for drivers and sockets, less volume for sound reproduction. The style benefits are obvious, but will the sound be similarly slimline?

Samsung has been releasing great-sounding soundbars ever since it set up an audio lab as part of Samsung Research America under Allan Devantier. The lab includes testing and measuring facilities that follow the tenets of the legendary National Research Council of Canada as developed by the equally legendary Dr Floyd Toole, and this is no coincidence, since Devantier came to Samsung from Harman (before Samsung bought the company), and he professed his devotion to Floyd Toole's methods when we spoke to him back in 2017, just as the first fruits of the Californian lab arrived in Australia.

"I've known Floyd since I was about 17 years old, so he's like a father to me," he told us then. "I wouldn't be here today if it wasn't for him and my years at Harman learning from him, and of course other people like Laurie Fincham was there at the time, Don [D.B.] Keale, Richard Small — these are all giants of the industry. So the learning experience there, I was soaking it all up in the 1990s, and the idea of really well-controlled blind listening tests, really well-done measurements — all the things that Floyd talked about for 30 years — has been just as important for me to do, and translate that and get that done at headquarters, as much as just bringing new technology like better woofers and tweeters. And it's interesting that now, today, my job is to do for Samsung what Floyd did for me, right?"

Also interesting was that from the start the Samsung lab didn't use its facilities for high-end stereo speakers but for soundbars, and their subwoofers. The results have been wildly successful in both sound and sales; Samsung is now world soundbar leader.

SUMMARY

Samsung HW-S800B S-Series

Price: $999 (check street prices)

+ Crisp dynamic sound
+ Clean and balanced bass
+ Genuine height delivery
+ Optional rear expansion
– HDMI ARC only, so check compatibility in advance

Equipment

As the California lab enters its tenth year, the S800B represents something new. It slims down the bar quite remarkably, so slim that we could close our forefinger and thumb around it; the cross-section is roughly a 4cm square. The bar is long, however — 116cm — but since this matches a 55-inch TV nicely, it's unlikely to outscale a modern TV bench, and it certainly looks far less daft when wall-mounted than do larger soundbars. A full wall-mount kit and instructions are included with the S800B.

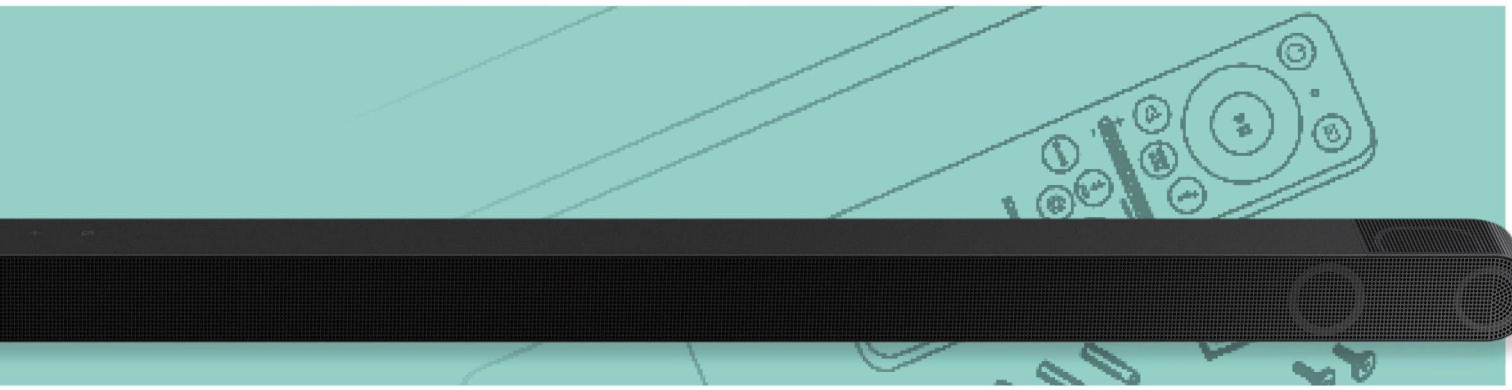
Visually desirable, then, but such an "Ultra Slim" design creates issues, and not just the obvious sonic one of having much reduced cabinet volume. The drivers are also smaller: unspecified, but we think three set of small tweeters and elongated 65×25mm drivers facing forward and two oval 25×40mm drivers firing up for height content. There may be something else in the ends; we couldn't tell through the grille.

Indeed the bar is so slim that Samsung hasn't been able to fit in proper a proper HDMI socket. Instead it's got a mini-HDMI connector, with a mini-HDMI-to-HDMI cable provided in the box. And there are no other sockets apart from the power connection, so it's HDMI or the highway, no fallback optical or analogue input. You'd better hope your TV's HDMI ARC works with this one. Although there is one alternative if you have a 2022 Samsung TV (BU8000 and above, say the specs): wireless Dolby Atmos transmission by Wi-Fi. Clever!

The HW800B appears in one product video in white; this seems a finish given only to certain retail outlets, and released as the HW-S801B. It seems otherwise identical.

There are a great many features included, such as Samsung's SpaceFit Sound+ and Q-Symphony, which will work when used with a recent Samsung TV, but the key takeaway for all users is the inclusion of Dolby Atmos and DTS Virtual:X processing. (Why not actual DTS:X, given its upfiring drivers? Presumably because very few TVs will pass DTS:X to their HDMI ARC output from a connected device, while no streaming services use DTS:X sound.)

Once on Wi-Fi, the bar can be connected to and controlled from Google or Alexa voice assistants, in



addition to the little physical remote control, and most likely your TV remote too.

Given the slim bar, the subwoofer is crucial to fill out the sound. Samsung's sub is neatly compact, roughly a 24cm cube, with an active driver on one side, passive radiator on the other. You can also add physical rear speakers to this system, via the $349 SWA-9500S/XY; these wireless rears, each of which will require a mains cable), combine rear surrounds with Atmos-enabled height driverss, so adding these would complete a 5.1.4-channel system.

Performance

With no inputs other than the mini-HDMI ARC connection, we were pleased to find the bar worked instantly with the Samsung S95B OLED TV into which we first plugged it, and also with a visiting TCL Roku TV. However we never got it to play from 2021 Samsung TV we tried, nor an older Toshiba TV, no matter how we fiddled with their settings. So we'd suggest having your dealer check compatibility in advance for your particular TV, and to allow a return if it doesn't work.

It's certainly worth trying, because Samsung has delivered another dynamite soundbar performance for the price, and it's a success of teamwork, with both the bar and the subwoofer being essential to the sound.

Indeed the sub is something of a star. Its bass descends to real depths, creating output from signal even below 30Hz, and it manages to sound not only resounding but astoundingly tight for a subwoofer doing so much from a cabinet so small. There's a moment 1:16 into *Jumanji: Welcome To The Jungle* where a deep chugging shakes a huge shed before a helicopter bursts through its timbers: the chugging not only had huge weight but stopped and started within each chugbeat, where many small subs deliver this as a blur.

The helicopter exits and flies overhead —an Atmos treat with genuine surround, but not possible here with 3.1.2. Nevertheless, the space generated was impressive; the soundstage stretched wide beyond the bounds of the bar despite there being no side-firing speakers, and yes, large in height too, as if a large semi-circle of sound was being created up and around the screen area.

Better still, the orchestral score sailed on unaffected above the action in the best Indiana Jones fashion. It sounded just a little thinned of lower mids, and a frequency sweep revealed a significant dip in response centred on 170Hz, just above the crossover point; this is perhaps a gap between the ability of the sub to go high and the super-thin bar to go low.

It doesn't intrude on listening much. Nor was there much sense of power limitation, so that while of course the mayhem of the final fight in *Justice League* will sound bigger and excite more air from a full surround system, it's hard to criticise the size and quality of sound here. This UHD Blu-ray also had DTS-MA 5.1 available; we tried this with the DTS:X Virtualiser setting but it sounded a little phasey, behaps because of the vertical upscaling. 'Standard' mode seemed the clearest rendition of 5.1 material, even though the top drivers are out of action in this mode.

'Standard' is also the only mode which doesn't upscale stereo content to the full driver complement; everything else plays two-channel content in 3.1.2, even, surprisingly, the Game mode, which you might expect to switch off all non-essential processing.

The 'Adaptive Sound' setting is said to "*analyse the audio signal to deliver optimised sound based on each scene*", which sounds a bit worrying but actually yielded good sound in nearly every scenario we gave it, excepting only our preference for 5.1 as 3.1.

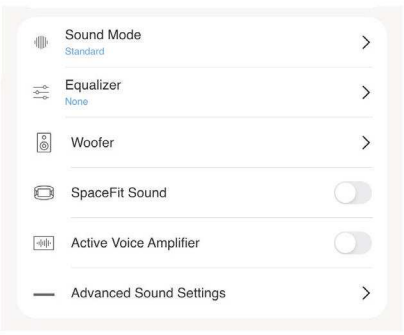
As for music, once we'd connected the bar to Wi-Fi using Samsung's SmartThings app we enjoyed pretty enjoyable tunes sent by AirPlay 2 from an iPad Pro. There's a wide stereo spread, just a little peakiness on female vocals (that thinning again), and this was accentuated when we tried any sound mode other than Standard. A strong pass here.

What didn't we like? As a byproduct of the Ultra Slim design, there's no display, just a few lights, and a lightly thin computery voice, which we couldn't find an option to turn off (it's redundant if you use the SmartThings app to show status). Otherwise nothing else, so long as HDMI-ARC proves compatible.

Conclusion

This bar should clearly outperform the others in the group, since it is far higher in price, although we should note that at the time of writing, it seemed widely available at prices down to half its RRP. It is also more sophisticated in having Wi-Fi to allow more streaming options. Its excellent little subwoofer allows the combo to deliver a high quality sound which justifies even its full price, especially given the bar's slender dimensions. It's another undeniable triumph for the team at Samsung's audio lab.

▲ Mini-HDMI is the only physical connection to the bar.



▲ The SmartThings app provides feedback.

SPECS

Samsung HW-S800B S Series $999

Inputs: HDMI ARC, Bluetooth (SBC only), Wi-Fi, Chromecast, AirPlay 2

Soundbar dimensions (whd): 116 x 38 x 40cm

Weight: 1.4kg

Subwoofer dimensions (whd): 23.8 x 24 x 23.8cm

Weight: 6.4kg

Contact: Samsung Electronics Australia

Telephone: 1300 362 603

Web: samsung.com.au

New Theories

We're invited to hear Theory's unusual cinema speaker solution in situ.

Theory Audio Design is a relatively new company, but comes from solid stock, having emerged in 2018 as a sister brand alongside a marque of nearly two decades standing: Pro Audio Technology. Both share their President/Product Designer Paul Hales and hail from Orange County, California, where the two brands cohabit a swish 'Lake Forest Experience Center'. They share distribution in Australia as well, under Audio Active.

The two brands have different goals. Pro Audio Technology brings professional-level cinema sound to high-end residential home theatre. Its founder Paul Hales already had a track record with Hales Audio in high-end two-channel speakers before working with pro audio company QSC from 2000 to 2004, assisting that company's highly successful move from pro amplifiers into loudspeakers. But at the same time Hales was running his own demonstrations of a new 'cinema reference' speaker from Hales Audio, and that led him towards the founding of Pro Audio Technology, making "professional-style speakers but with residential installed sound in mind", as he says. It is indeed serious gear for high-end dedicated home cinemas; the speakers use compression drivers and are typically very large in the woofer department. You won't find no soundbars in the ranges of Pro Audio Technology, no sir.

The newer sister company Theory Audio Design, on the other hand, was founded to take the technology developed for 'Pro' and use it in more affordable equipment for media rooms, distributed audio systems, and outdoor use. "The products take a more lifestyle approach because they were designed to be seen," Paul Hales told us, even though in this demonstration the Theory gear was installed in a theatre room behind an acoustic screen. And here you do find soundbars — though not ordinary soundbars. Theory promised from the outset that it would do things differently, declaring that "*too many 'me too' products have remained unchanged and uninteresting for decades.*"

Talking big, then. So, how does Theory avoid its kit becoming "uninteresting"?

Design & facilities

In its short life so far, Theory has delivered architectural in-wall, in-ceiling and on-wall speakers together with associated loudspeaker controllers, and it is currently working on distribution gear which will be early to leverage Dante's audio-over-IP platform (where audio signals are distributed digitally via CAT cables for multichannel and multizone audio; the current brake on wider Dante implementation appears to be chipset availability problems).

Theory also has three soundbars, designed to match the widths of 65-inch, 75-inch and 85-inch TVs, with the price of even the smallest of them (at $5899) making super-soundbars like Sennheiser's Ambeo and Devialet's Dione seem positively affordable.

But then Theory's soundbars are not like those you might buy in a chain store with your TV. You do not simply plonk them down and run HDMI ARC audio from the TV. They weigh 30kg each, for a start, despite having no internal amplification, instead requiring the use of those dedicated Theory loudspeaker

controllers. So yes, Theory is, as it promised, doing things differently.

These soundbars are often packaged into systems that include the company's sb25 on-wall speakers on surround duties. But the system that we were invited to hear was not a soundbar-based system at all, rather one that uses those sb25s speakers all around — three for its front LCR positions, two more sb25s as rears. Identical speakers throughout is something generally to be welcomed, as it ensures tonal matching all around the system. And the sb25 speakers are designed for broad functionality. They are only 10cm deep, so look unobtrusive on walls (Theory calls them a 'surface-mount' speaker, though the term may confuse those who use this term for printed circuit boards). They can mount vertically or horizontally, with all manner of clips and screws for their universal bracket, plus a number of third-party stands available — ceiling ball mount, wall ball mount, a wall pan-and-tilt mount, even a ceiling pole pan-and-tilt.

Each sb25 speaker is 55cm long (or wide) and 24cm wide (or high), operating as a two-way with a 36mm polymer compression driver and two 127mm (five-inch) carbon-fibre woofers. Indeed Theory's soundbars use the same driver complement as would three sb25s all joined together in one larger version of their custom-extruded and machined aluminium enclosures, with pleasing but unobtrusive curves. So using three separate sb25 speakers for LCR brings greater versatility of positioning at very little additional cost, since these retail at $2299 each.

In addition to five sb25 speakers, this system included a pair of Theory ic6 in-ceiling speakers delivering height for Atmos/DTS:X soundtracks. These are large tubular in-ceiling speakers, 22cm deep and each weighing upwards of 5.5kg, with the same combination of polymer compression driver and carbon-fibre woofer (here 6.5-inch), mounted together coaxially and interestingly stated as sharing the same magnet. They have wide dispersion (one of their applications is for background music in commercial venues) so they don't require (or offer) pivoting towards the listening position. They can be given a square or round grille, and are usefully weather-resistant. Price is $1599 each. A nice variant — though perhaps not for cinema use — is the ability to have the ic6 speakers hanging in pendant housings, for an additional $289 each.

Last inclusion for this system's complete channel count of 5.2.2 (or strictly 5.1.2, since the sub outputs are undifferentiated) is a pair of Theory's passive sub12 subwoofers, their 12-inch woofers with four-inch voice coils, and operating from 22-125Hz (no envelope stated). At the front of the room these looked purposefully pleasing, all in black with a glossy branded top panel. These are $4299 each. (We gather Theory has new architectural subs for in-wall or on-wall use coming in 2023.)

> "This compact yet powerful system thrillingly delivered the disorientating sonic spins of roulette wheels and the electrical buzz-click of Vegas neon signs lighting up..."

Slim controller

So far so simple. But Theory's use of passive speakers throughout doesn't mean you bring your own amplifier or AV receiver. You must, repeat *must*, use one of Theory's loudspeaker controllers, which are amplifiers, but also versatile high-resolution digital signal processors, coming with Theory's 'Automator' software to set audio levels, delays, and signal routing, fully matrixed bass management within the system, and up to 20 parametric EQ points per channel.

This level of control makes sense for the way they work with the Theory speakers, which we gather have simple crossovers for which the controllers are able to compensate, and this is why you can't just plug the Theory speakers straight into any old AV receiver.

But the controllers don't take HDMI inputs from your sources directly; they require a separate analogue input for each of their eight input channels. Nor do they undertake the decoding of Atmos and other immersive formats. So you still need an AV processor in your system to do that decoding. And most AV processors have their own room calibration systems which will also be able to set audio levels, delays, EQ and so on. Having two such processors in the same chain becomes somewhat confusing.

Further, Theory's loudspeaker controller is taking each channel of your system out of the AV processor as an analogue signal. Then it digitally samples each channel to do its own processing in the digital domain, before turning it back to analogue to send to the speaker. Despite the controller's A-to-D conversion taking place at a respectable 24-bit/192kHz, and the internal processing at 32-bit, that's still additional conversion and processing which might incur delays resulting in lip sync issues, not to mention that your signals are now going from digital to analogue to digital to analogue. We asked for their comments on this, and Theory's Paul Hales addresses the subject in our interview overleaf.

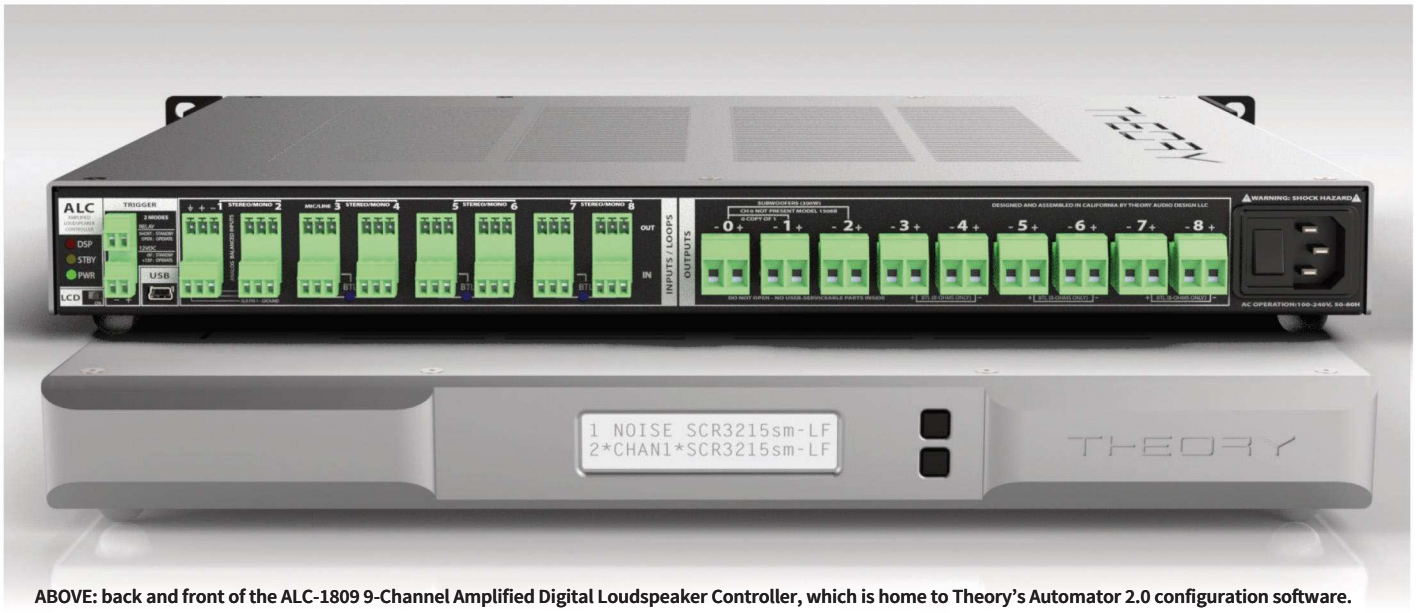
In years to come, all that may change when Dante's audio-over-IP platform fully takes over the world, allowing a single decoded digital signal to run along one Cat cable to a Dante-equipped speaker processor. Alternatively Theory might consider making something with HDMI inputs and decoding — but that's a lot of licensing deals for a smaller company, and besides, Paul Hales says they simply don't want to do it (see interview).

The processor used in this system was the ALC-1809, a $7999 unit which delivers three channels of 300W and six channels of 100W, all into four ohms, which is the rated impedance of the sb25s. So for our 5.2.2 system the three higher-power channels feed the passive subwoofers and the centre channel, with the L, R, surround and in-ceiling channels getting 100W each. Given the slimness of the ALC-1809, we can safely assume this is Class-D power, rather than A-B.

All the processor's outputs are on closely-spaced Eurobloc connectors, so don't bring thick cable or banana plugs. The input blocks can take Euro-to-XLR adaptors should your initial processor offer balanced outputs.

As you can see from equipment listings overleaf, this totals up to something over $30k even without the initial processing (and sources): not insubstantial, though not wildly hefty in the world of quality home cinema.

► Theory's ic6 in-ceiling speakers, used for the rear channels in the system we heard.



ABOVE: back and front of the ALC-1809 9-Channel Amplified Digital Loudspeaker Controller, which is home to Theory's Automator 2.0 configuration software.

Listening

This system had been set up for us to hear at McCormick Concepts, in Thornleigh, near Hornsby in upper Sydney. We have encountered Craig McCormick's fine work before in *Sound+Image* when one of his theatres featured in the 2020 CEDIA Awards. The home cinema display room in his store is a realistic size for many homes, a well-designed space with two seats straddling the hot spot, and with good acoustic treatment (Anthony Grimani's MSR panels) to have the room dry but not too dry.

The video system in situ included a Panasonic UHD Blu-ray player feeding a Lumagen Radiance Pro processor and on to a BenQ projector, which illuminated a Severtsen SAT-4K acoustically-transparent woven-fabric screen. It looked great, though we focused our attention primarily on the audio system.

McCormick already has several audio systems invisibly in place for audition in this room, including Pro Audio Technology, the big brother of Theory. But the Theory system for the day had been set up by Paul McLean of Theory's Australian distributor Audio Active, for which we give thanks, as it saved us fiddling with all those cable connections. We just rolled up with a bag of discs to hear the results.

The processor in place was Anthem's AVM70 (Anthem is another brand under Audio Active in Australia), feeding all those individual channels to the ALC-1809. The three LCR speakers were fitted behind the screen, with the two surrounds in wide in-room positions just behind the seats, and the two ic6 in-ceiling speakers in height positions unusually far behind the seats, necessary in this room on this occasion because of their depth and weight. We gather the question of having two stages of processing available was here approached by first running the Anthem's ARC room correction (which we've found highly effective and even fun to use in our previous Anthem reviews) and then using the Theory ALC unit's abilities to further tune the sound. But see also Paul Hales' comments on this procedure opposite.

We began our listening with some movie content — the hilariously over-the-top race to the first key near the beginning of Spielberg's *Ready Player One*. Immediately of note was the centre speaker's solid delivery of dialogue, lifted perhaps by that extra power from the ALC-1809 to remain clear above even the sonic distractions and Joan Jett soundtrack of this scene, with voices kept clean if just fractionally boxy rather than full and rounded.

Not that there was any shortage of bass overall. There was a pleasingly solid thump as Parzival's gull-wing door slammed down, shortly followed by a more massive slam as the CGI bridge came crashing into place. All this mayhem was portrayed with no upper bass confusion at all; indeed it seemed a characteristic of the system (and/or the tuning) that powerful impacts arrived as properly tight thuds, no woofy hangover to them, no muddying into what was a clear and clean midrange, so that even among the general carnage there were lovely dynamic sweeps of tinkling coins being collected in arcs from front to back, left to right.

Perhaps as a function of the ceiling speakers being rather far back, there seemed a slight overstretch to this immersive sound field, and an occasional misplacement of giant gorilla groans on the move. With both subwoofers in-room at the front, a few explosions specifically at the rear were also slightly reduced in impact there, but overall the sound remained huge and impressively dynamic, especially remembering how relatively compact are the behind-screen sb25 speakers.

We're suckers for surround music, especially when reviewing for sound more than image, so after a massively rocking near-reference-level delivery of *Black Eyes*, the live opener from 'A Star Is Born' where Bradley Cooper shows his chops to the enthusiastic country crowd of California's Stagecoach festival, we turned to some music-only discs, beginning with the latest Blu-ray/SACD from Norway's 2L label, entitled 'TUVAYHUN—Beatitudes for a Wounded World'. This features high-res stereo, 5.1 and 7.1.4 Auro-3D tracks, plus uncompressed TrueHD 7.1.4 Atmos at 48kHz, this last being the track we selected to be delivered here at 5.1.2. It's a vast and open recording made in a Trondheim cathedral by multi-Grammy-winning engineer Morten Lindberg, and its capturing of space is almost as beautiful as the music itself. With the level set perhaps a few decibels above sensible, this system seemed to squeak right at the top notes of the choir, but otherwise rendered the full space and delivered the lifting and expanding choral sound beautifully.

We moved on to a couple of favourite DVDs which have DTS-HD 5.1-channel music at 24/96kHz. The first was The Beatles 'Love', from 2006, the first and by far the most entrancing of any of Giles Martin's Beatles re-mixes despite being only 5.1; indeed it's rare we put on this disc without enjoying it to the end. The rear channels are fully employed and require a properly balanced surround system, rather than big speakers at the front and small to the rear, so the Theory layout of identical sb25s all the way around served it perfectly. After a huge presentation of *Get Back* and suitably swirling effects around *Glass Onion*, this system delivered a spine-chilling *Eleanor Rigby*, with Martin senior's string octet to the fore, yet with cello and viola positioned down the sides and rears; it was a truly immersive presentation, and proved the system's mettle with music as well as movies.

We somehow managed to call a halt before being swept away by *I Am The Walrus*, and finished off our listening session with a newly-arrived UHD Blu-ray of 'Elvis'. As you might expect of a Baz Lurmann movie, this is a soundtrack which never lets up. Our reference for this was two trips to see it at the cinema, where it had been delivered at the loudest level we've ever heard at a commercial showing (hat-tip to Sydney's Cremorne Orpheum 4), and the Theory system was able to match these extreme dBs while achieving still greater clarity. This compact yet powerful system thrillingly delivered the disorientating sonic spins of roulette wheels and the electrical buzz-click of Vegas neon signs lighting up, along with some massive dynamic impulses as flash bulbs capture the King in the opening montage.

Conclusion

It's almost a disadvantage to see this system before you hear it: the compact size and sleek design of the sb25s may limit expectations. Don't let them. With their subwoofer support and high-quality multichannel signals, they are able to deliver reference-class performance in a room of this size, and we suspect rather larger as well. Their high sensitivity and whip-crack compression driver performance makes them sound like the movies, but the tightness of the powerful bass delivery and the clarity of the midrange make for a cleaner and more accurately immersive experience than you'll be given in any real movie theatre.

For anything other than very large home cinemas (for which you might move up to Theory's architectural offerings or its higher level Pro sister brand), this is a system you should experience before you settle on other plans. While the double processing and redundant digitisation caused us initial concern, the proof of efficacy came in the tasty, powerful and fully entertaining final delivery, which proved itself for both high impact and subtlety, and across both movies and music content. It's a brilliant performance.

The system (audio chain only)

Panasonic UB9000 UHD Blu-ray player
Anthem AVM70 multichannel processor
Theory ALC-1809 loudspeaker controller **$7999**
Theory sb25 speakers x 5 **$2299 each**
Theory ic6 in-ceiling speakers x 2 **$1599 each**
Theory sub12 subwoofers x 2 **$4299 each**
THEORY SYSTEM TOTAL: $31,290

MCCORMICK CONCEPTS, Thornleigh, NSW
Telephone: 1300 795 469
Web: mccormickconcepts.com

THEORY AUDIO DESIGN
distributed in Australia by Audio Active
Telephone: 03 9699 8900
Web: www.audioactive.com.au

INTERVIEW WITH PAUL HALES

We put our questions about the structure of the Theory system direct to the company's President and product designer, Paul Hales.

SOUND+IMAGE: *Can we first address the duplication of processing? The Theory system requires a decoding processor prior to the ALC1809, in this case an Anthem AV processor, so there is calibration and optimisation available both in the Anthem and then again in the Theory controller. We gather that here the Anthem calibrated first, then this was fine-tuned with the Theory controller. Is that what you'd recommend?*
PAUL HALE: There is no need to utilise the processor for calibration, and in fact we recommend against it to ensure the best audio performance of your Theory system. Our recommendation is to set all levels on the other AV processor to zero, and to use the very capable and user-friendly Automator software on the ALC-1809 — this will yield the best results.

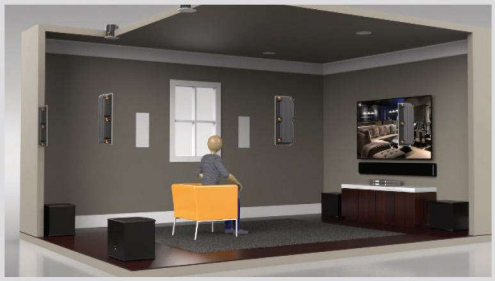
No third-party surround processor-based automated system can properly calibrate a surround system because the calibration scheme has no knowledge of loudspeaker bandwidth or directivity, nor do they have any knowledge of the room acoustic. Plus microphones do not detect the sound in the same way as humans do, so the calibration 'target curve' is not what we hear, anyway.

Humans hear with our brains, not our ears. There is a lot of 'processing' of the signals that occurs in our brains, and that processing includes adapting to our acoustic environment — we settle in and 'hear around' the room instinctively.

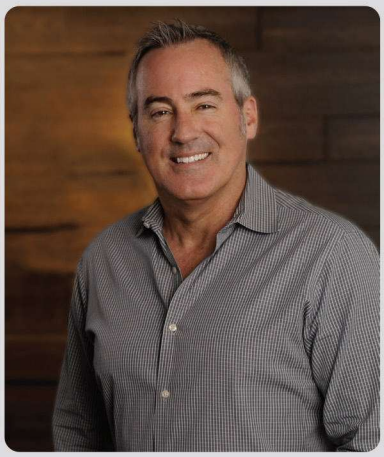
Think about it. If you're having a conversation with someone in a typical conference room, you are hearing the sound of their spoken words first directly from the speaker's mouth, and then you get bombarded with dozens if not hundreds of delayed copies (reflections) of the words from all the hard surfaces of the room. If our brains did not adapt to 'tune out' those copies, we could never hear where the speaker was located, let alone understand what they are saying — our hearing would be overloaded by the copies. We've evolved to filter out the reverberation and tune into the sound source itself.

Automated calibration schemes that include room reverberation in their measurements and target are 'compensating' again for the room that we have already naturally compensated for. They are redundant, and they don't work. Worse, if you have well-engineered accurate speakers, they can do nothing but make them less accurate, by definition.

Unlike 'dumb' automated systems found in surround processors — "dumb" in the sense that they have no knowledge of the speakers being used — Automator does know all about the speaker, the loudspeaker frequency-dependent directivity, sensitivity, bandwidth, power handling, and so on. It will get great results in all typical installations where the speakers are mounted in the usual locations within the room. Having the knowledge of speaker characteristics sets our systems apart from all the others.



AUTOMATOR *runs on the ALC-1809 via an intuitive browser interface and walks installers through a five-step configuration. With a single ALC, 7.2 or 5.2.2 systems can be configured from start to finish in 15 minutes, says Hales. Two ALC-1809s can configure systems up to 9.4.4 or 7.4.6.*



S+I: *How about the additional conversion stages in the system — going digital (HDMI) to analogue (Anthem outputs) to digital (ALC-1809 samples) to analogue (ALC-1809 outputs). It's clearly undesirable extra conversion; why did you choose this doubled-up arrangement over, say, HDMI inputs on the ALC-1809 and doing your own conversion?*
PH: Theory has made the explicit decision to not enter the surround sound processor market. We are not interested in that product category. For that reason, we could not take in the HDMI signal directly, because the surround sound format must first be decoded into its individual signals. The world has standardised on surround decoders for this, usually within surround processor preamps or surround receivers. All of these except the very most expensive rely on analogue to output the individual decoded surround signals. Since Theory is a value premium product, we must be compatible with the widest variety of attached equipment — and right now that's analogue.

With that said, our DLC loudspeaker controllers have S/PDIF digital inputs for stereo signals and as soon as Audinate [maker of Dante] can catch up to demand, we will have full Dante and AES67 compatibility. In the DLC models you can 'bypass' the DAC/ADC at the preamp/amp interface. Since it's unlikely that any affordable surround processors will have Dante or AES67, we're going to keep seeing the analogue standard for the foreseeable future.

And that's OK. If you're getting the most thrilling, enveloping, dynamic and engaging sound possible for a system of that price, if the sound delights you, what does it matter how many domain conversions are taking place? And since you have no control over or can even know how many conversions took place in the recording process, you can't control the total number of conversions anyway. Forget about the audio hardware — get lost in the content. Theory products are made to deliver the maximum enjoyment of the content, not the gear.

Lastly, the inaccuracy caused by domain conversions, especially if you use high-quality converters as we do, is swamped by the inaccuracies in other parts of the system, especially the acoustic part. Given high-quality converters and high-quality ancillary equipment, I don't think you would hear the extra conversion. Whereas you would most definitely hear inferior speakers. *Interview: Jez Ford*

For your EARS only

Bowers & Wilkins Px8 007 Edition
wireless noise-cancellers

A little bit of Bond gives Bowers & Wilkins' Px8 a licence to thrill.

A marketing tie-in with the James Bond franchise is something of a coup, and for Britain-based Bowers & Wilkins it's more than a random badging; there's a genuine connection. The company's 800 Series speakers are famously installed in Abbey Road recording studios, used to monitor the recording of not only music but countless film scores — including *Skyfall, Spectre,* and the recent *Bond 25* album of 007 themes by the Royal Philharmonic Orchestra, mixed in Dolby Atmos.

With Bond tie-ins most famously associated with the like of luxury Omega watches and Aston Martin cars (though more recently BMW), it must have seemed a fine choice for a special edition of Bowers & Wilkins' latest range-topping and breathtakingly-priced Px8 headphone, which launched in Australia at $1149.

But Bond branding doesn't come cheap, as a visit to the official *007store.com* reveals. A 60th Anniversary Jeroboam bottle of Bollinger champagne will set you back nearly $13,000. A Geoffrey Parker 'Dr. No' backgammon set is $9728, or you could invest $15,702 in a 'You Only Live Twice' pinball machine (presumably generous on the Extra Balls).

So perhaps the rise to $1299 for the '007 edition' Px8 should be considered a minimal increment for the cachet of a small 007 logo alongside the control buttons, the gun-barrel swirl inside the earcups, and the obvious link that the 'midnight blue' finish of the special edition is inspired by Connery's tuxedo in 'Dr. No'. Of course it is.

Do you get any sonic tweaks for the money, along the lines of the 'anniversary edition' speakers the company has previously released? No, nothing at all. The 007 Edition is identical to the standard version in terms of technology. Which brings us to the critical question, really: what does the Px8 bring to justify its price, whether at $1149 or $1299?

Carbon-fibre drivers

There's certainly a sense of luxury, with lovely soft Nappa leather on the headband, earcups and earpads, while the cast-aluminium arm structure is beautifully finished and feels precisely engineered in the way it slides and pivots.

This sense of class has been achieved without adding unnecessary weight: at 320g the Px8 are a mere 13g heavier than their significantly more affordable Px7 S2 stablemates, and a notably 60g lighter than the headphones against which many may be judging these, Apple's mighty AirPods Max, which looked right pricey at $899 until the Px8 was announced so far above.

The main justification for the price, then, seems to be the newly-developed driver technology for the Px8. The lesser Px7 S2 diaphragm uses fairly conventional biocellulose, though in a cone more like

a loudspeaker driver than the usual flattish headphone diaphragm, and using some kind of resin to enhance the stiffness of that cone.

But the Px8 gets a new carbon-fibre cone, again with resin for stiffness and damping. The company says that this lightness of weight with high stiffness allows a real pistonic movement of the diaphragm for better clarity. Tweaks to the motor system account for the reduced mass of the new cone.

The Px8 also has the higher frequency response — though no figure is given, and would apply only to cabled use anyway, since the aptX adaptive and HD Bluetooth codecs here are limited to lossy 24kHz.

The rest of the speaker tech is common to the Px7 S2, including a large roll design for the driver to improve linearity and reduce distortion, and a light voice coil to deliver a good impulse response for dynamic detail.

While the Px8, 007 Edition or no, seems heftily priced for a pair of wireless noise-cancelling headphones, it's worth remembering that there are plenty of headphones sold at and above this level where the price is justified by with electrostatic or planar-magnetic driver tech. So why not exotic cone material? Their performance will be what proves their value, or otherwise.

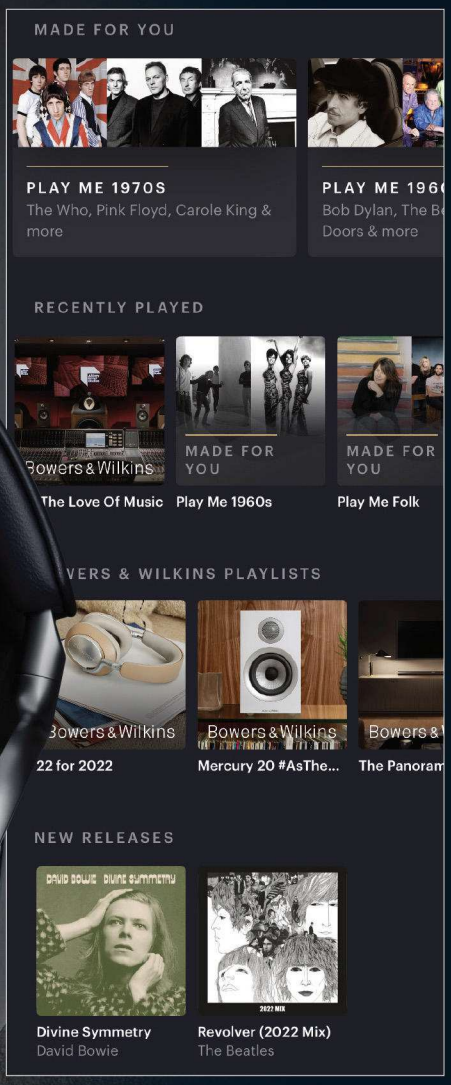
Listening sessions

The Px8 headphones came to us fresh, so we first plugged them in by cable to the headphone socket on an amplifier and just ran them continuously for more than 50 hours, just in case those carbon-fibre drivers need time to loosen up and give their best.

Then we started the serious listening. And sometimes when you don a pair of high-quality headphones, you can just hear their merits immediately. The Px8 were not like that. They sounded fine, just not particularly remarkable at first, nor a whole lot different to the Px7 S2. But their noise-cancellation was highly effective, and their ambient pass-through mode also high-quality in delivering a stereo image of the world outside, if not quite as seamlessly magical as achieved by Apple's AirPods Max.

The wear-detection sensor is selectable via B&W's Music app, and is useful, though it takes about a second to kick in, too long if you're just lifting a cup to hear someeone speaking. It doesn't autostart afterwards either (though it seemed to try sometimes). Auto-standby after 15 minutes is also optional, and saves remembering to flick off the red button — easy to forget, even though it's red!

So what was up with the sound? Nothing at all. You just don't appreciate it until you turn it up. And up. Bluetooth puts a limit on volume level, but within that limit there is simply no audible distortion from the Px8, which makes it easier (and better for your ears) to listen at enjoyably full levels. We did use B&W's Music app (right) to enjoy some of the curated and automatic playlists, but it was the performance direct from files on an iPad Pro which most astounded. The Px8 just never put a foot wrong, delivering a perfect balance across every genre, dynamic too (when played loud), so that they were as happy slamming out Motorhead's *Smiling Like a Killer*, with Lemmy strong and clear between massive stacks of guitar, as they were presenting Trevor Horn's recent raging remake of *Blue Monday*, for which the PX8s delivered a vast soundscape and impact galore. Acoustic music is another strength, whether full-bore classical or the sweet strings accompanying Ella Fitzgerald on *Get Thee Behind Me Satan*: indeed the inherent smoothness of the Px8 sound is a dream match for female vocals.



Switch to the obvious competitors, Apple's AirPods Max, and the Apples sound far more open and detailed, but in fact there's no detail missing from the Px8s, they're just more subtle about it, and significantly more natural. And even better if you to try USB-C playback down a cable from a laptop. This yields maximum clarity, additional volume, and a still more solidly-defined bass.

Conclusion

These headphones stand out for their remarkable ability to play loud with no hint of stress. Their 007 livery brings no tech differences at all between this and the standard edition, so it's really your call whether to splash out on the Bond trimmings.

We'd just note that the price difference is almost enough to get you this magnificent 'James Bond The Spy Who Loved Me Snow Globe' instead, just $183 from the 007 Store. +

SPECS

Bowers & Wilkins Px8 '007 Edition' $1299

Type: over-ear, closed, dynamic, wireless, NC

Drivers: 40mm 'carbon' driver

Inputs: USB-C, Bluetooth (SBC, AAC, aptX, aptX Adaptive/HD)

Quoted battery playback time: 30 hours

Quoted charge time: 2 hrs full (15 mins = 7 hrs)

Weight: 320g (without cable)

Contact: Bowers & Wilkins Australia

Telephone: 02 9196 8990

Web: www.bowerswilkins.com/en-au

Image simulated for illustration purposes only.

Samsung's soundbar secret is sound

Now the S-Series lifts the lifestyle factor too.

Samsung's soundbars have regularly won Sound+Image Soundbar Awards across the last five years, and the main reason for their success has been simply how good Samsung soundbars sound. And this has been no chance development, rather the result of some serious investment.

Back in 2013, in a market where soundbars were selling on their convenience factor rather than their audio performance, Samsung set up a special team in California, taking key personnel from a number of reputable institutions as well as the hallowed hi-fi halls of Harman, a company it now owns. That team built a new Samsung Audio Lab that enshrined the highest hi-fi principles of testing and measurement. Yet the new team set to work not on some high-end stereo speaker project, but on redefining how a soundbar could perform.

The investment was wildly successful; in its very first release this regime of accurate measurement and simulation, together with custom drivers and several innovative technologies, delivered the MS-650, the best mid-priced soundbar we'd ever heard.

In the years since then, each successive generation has built on those foundations, and Samsung's soundbars have remained winners. The current Q-Series soundbars top out at the $1999 HW-Q990B, which delivers an almost alarming 11.1.4-channel sound using a large bar, a subwoofer and two physical rear speakers. It sounds HUGE — just the thing to accompany the 75" and 85" TVs for which Australians are proving their appetite.

But now Samsung has returned to the Lab for a new challenge: could such big sound be created from something of a far smaller size?

The result is the S-Series, topped by the Ultra Slim design of the HW-S800B soundbar.

S IS FOR...

SMALLER. Ridiculously smaller — the S-Series S800B has a cross-section less than 4cm square, and is stylish to boot. And with Australian living rooms post-COVID now often a place for exercise and work as well as entertainment, the Ultra Slim S800B offers versatility in design and functionality. Where many large soundbars look a trifle inelegant once they are wall-mounted, the S800B bar is barely deeper than a dado rail. This is one impressively discreet design.

All the more so thanks to doing away with the signal cable: the Ultra Slim S800B is capable of world-first wireless Dolby Atmos transmission, playing from a compatible Samsung TV over Wi-Fi.[1]

STILL SOUNDS GOOD. Of course it's not hard to make a small soundbar — the trick is in making a small soundbar sound good. The S-Series succeeds — excels even. Despite its slender shape the Ultra Slim S800B delivers full 3.1.2-channel sound, with the bar's genuine upfiring drivers allowing height delivery for Dolby Atmos or DTS Virtual:X.

Q-Symphony allows the bar to expand its performance still further by playing in concert with the sound from a compatible Samsung TV, while SpaceFit Sound+ tests room reverberations to ensure the bar performs to its best in any space. Adaptive Sound analyses the audio signal to deliver further optimised sound based on each scene.

The result of all this is crisp and clear sound: a dramatic delivery within a wide and high soundstage. Meanwhile there's plenty of bass support from the…

S-SERIES SUBWOOFER. The solid 6.4kg subwoofer with the S-Series S800B is a compact 24cm cube that can be easily positioned, receiving its signal wirelessly to deliver all the depth required for a truly cinematic sound. Together with the Ultra Slim bar this system delivers full-range movie performance, and is even surround-ready, with an optional wireless rear speaker kit available to expand the sound system for true surround sound and total immersion.

SMART, TOO! The sound may be the thing, but Samsung still loads the smarts into the S-Series S800B soundbar. It works with Google Assistant and Amazon Alexa. It can stream music using Spotify Connect, Chromecast or Apple AirPlay 2. There's Bluetooth, Wi-Fi, and compatibility with Samsung's SmartThings app as part of a whole smart home. And there's a smart Game mode which provides gamers with immersive low-latency sound, promising ever more glorious victories for console or TV-streamed gaming.

SUMMARY

The Lab makes the sound, and the sound is Samsung's secret weapon, supplemented by significant smarts, now in an Ultra Slim soundbar. Between the Q-Series and the S-Series, Australians have options when it comes to versatile sound expansion, so they can find the right entertainment experience for their passion and lifestyle.

In the S-Series HW-S800B, Samsung has rewritten the soundbar equation. Again.

Or go Q! Samsung's flagship Q-Series soundbar systems use a larger bar, a super-subwoofer and genuine rears with upfiring drivers to achieve utterly total immersion.

1 Wireless Dolby Atmos transmission via Wi-Fi is compatible with 2022 Samsung TV's, the BU8000 and above.

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CEDIA® AWARDS 2022

Prepare to peek in on some stunning homes and cinemas, loaded with smart but subtle integrated systems, delivered by CEDIA members in our Asia-Pacific region.

Where do you look for the finest examples of home cinemas and smart home installations? We regularly feature some of Australia's finest in the pages of *Sound+Image*, of course, but once a year there's a flood of superb systems revealed through the winners and finalists of the annual CEDIA Awards.

These awards are global, and we're delighted to bring you right here, right now, all the finalists from the Asia-Pacific entries for 2022. And for a little more insight, we turn to CEDIA Australia's Paul Skelton, to explain CEDIA's role.

"CEDIA is the industry association that represents everybody who designs, manufactures and/or installs smart-home technology," Paul tells is. "We're a global group that represents more than 4000 members, in more than 70 countries. We have a long history in Australia — almost 30 years — and we have some members who have been around since the very beginning."

CEDIA's Wendy Griffiths and CEDIA Australia's Paul Skelton present the CEDIA Awards on the Gold Coast.

CEDIA, which stands for the Custom Electronics Design and Installation Association, brings benefits to its members in terms of industry knowledge, recognition and education. But why should consumers take note of CEDIA, and of integrators that are CEDIA members?

"One word — credibility," says Paul Skelton. "CEDIA members have to show they are appropriately insured, while they have access to education and resources that have been created by global leaders to ensure they are at the top of their game. Beyond CEDIA membership, using a CEDIA Certified integrator means that that person was willing and able to prove they have the skills to deliver on the projects that they have been contracted for.

"Let me put this another way, you wouldn't ask a gardener to fix your car, so why would you ask someone who is not qualified to install the technology systems in your home? We've all seen and in many cases experienced what can go wrong with incorrectly installed/commissioned systems, so why would you risk it?"

How do the annual awards operate?

"Each year, members can submit projects for our CEDIA Awards programme. A panel of technical judges assesses the projects to determine winners in three regions — Asia Pacific, EMEA and Americas. The projects are also judged by a local panel of architecture and interior design experts, who look at how the technology installed complements the lifestyles of home owners."

More generally, what exciting things are you seeing as current trends in smart homes and home cinemas?

"Personally, I'm quite proud to see the number of integrators expanding beyond the ultra-high-end luxury market and developing systems and solutions for people living with disabilities. This has been a very big focus of CEDIA in Australia for the past 18 months and it's quite rewarding to see the role of smart-home technologies evolving in this sector. Some of our members now work exclusively in this space, which really shows how integrated technology is now more of a utility than luxury item.

"That said, I wouldn't say no to a dedicated home cinema, but that's because I like loud noises and shiny objects! Plus, we have some world-class cinema designers in Australia who are true artisans in their field."

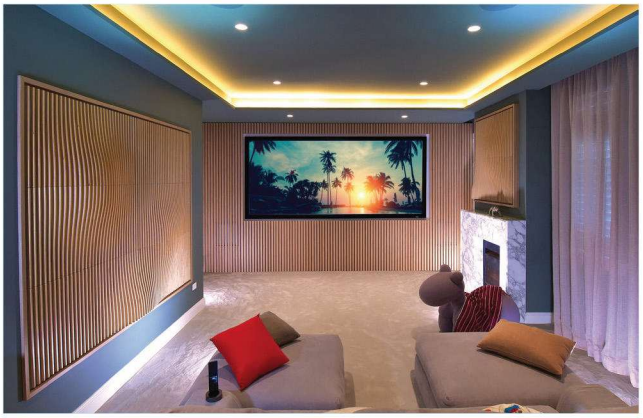
And what, if we may intrude, is your favourite movie scene for demoing a system?

"Perhaps I'm ageing myself, but my personal favourite is the Diva dance/opera scene from *The Fifth Element*."

So with great thanks to Paul Skelton and the extended CEDIA team for their help, let's peer into the finest cinemas and homes delivered in the Asia Pacific last year. And our hearty congrats to all the winners.

To find a CEDIA integrator, visit the sensibly-named webpage: **cedia.net/find-a-cedia-integrator**

Vinh Mangalino, Thomas Barnes, Ryan Hudson



CEDIA BEST INTEGRATED HOMES 2022

CEDIA BEST HOME CINEMAS 2022

BEST HOME CINEMA
LEVEL II WINNER
THE DIGITAL PICTURE

This is a seventh CEDIA win for The Digital Picture with this home cinema, which they have given the project title of "The Master's Enclave". It wins CEDIA's 2022 Home Cinema Level II (projects valued between $150k and $250k) for a cinema which the judges describe as "visually and audibly profound", as well as impeccably engineered — this project also picked up a Highly Commended award for Excellence in Rack Building and Design.

Often the biggest challenge a custom installer faces with a client is in figuring out what exactly the client wants. But that wasn't a problem here. Once these clients visited The Digital Picture's showroom and experienced the demonstration Dolby Atmos room, they were immediately sold. From there, it was all about incorporating the right additions and meeting the requirements of their space.

The client is an avid movie watcher and sports fan, and unsurprisingly wanted "as large a screen as possible", along with high-performance audio.

The Digital Picture team went with a custom 2.10:1 aspect ratio 143-inch Severtson micro-perforated projection screen, Sony 870ES projector and a Lumagen video processor which allows both 16:9 and 2.4:1 content to be played without black bars.

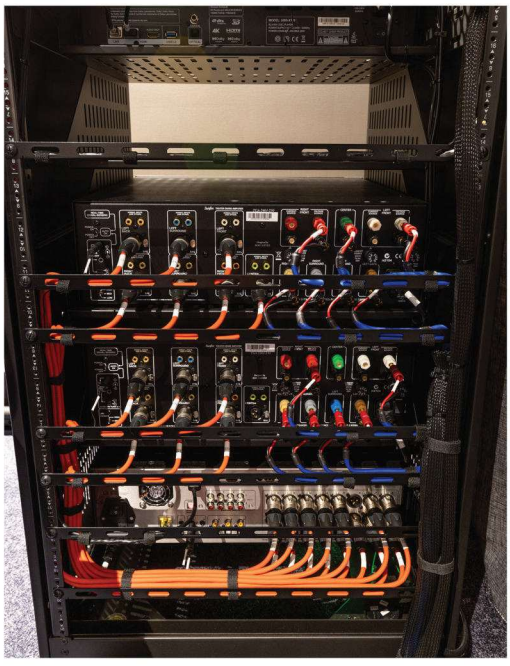
The audio system includes a Storm Audio Core 16 audio processor, Sunfire power amps and a powerful Gold speaker system from Triad, delivering in 9.1.4 Dolby Atmos.

The system had to be easy to use, and here a Control4 system with touchscreen NEEO remote give full control over source selection, aspect ratio control and lighting scenes. Premium leather cinema recliners and a cashmere carpet provide this space with the ultimate luxurious feel.

Typically, a room like this would need more sound isolation, says The Digital Picture. But here the client lives in a rural area, far from neighbours, so they have the luxury of turning their system up as loud as they like, whenever they please!

EQUIPMENT INCLUDES

4CABLING
APPLE
AV PRO EDGE
COGWORKS SEATING
CONTROL4
D-LINK
FLEXIMOUNT
KORDZ
LUMAGEN
REAVON
SANUS
SEVERTSON
SONY
STORM AUDIO
STRONG
SUNFIRE
TRIAD
YAMAHA



CEDIA AWARDS 2022

CEDIA SAYS: "When this client entered The Digital Picture showroom and experienced the Dolby Atmos system for the first time, they were immediately sold."

THE DIGITAL PICTURE
Brisbane, Gold Coast & SE Queensland
1300 322 811
www.thedigitalpicture.com.au

BEST HOME CINEMA
LEVEL II FINALIST
WIRED BY MJD

The clients for this clean 'Red Cinema' project requested a full-blown cinematic experience, and not just one that would be used on occasion. They wanted to take full advantage of this space daily for TV and other content, while the cinema also had to be big enough to comfortably accommodate guests on their own recliners.

To achieve their vision, Wired By MJD worked closely with the architect and the cinema designer, who allowed the integrators to take the lead. One of the first things mapped out was the seating design: a custom-designed U-shaped lounge in the upper seating with two custom *chaise longues* in the front centre. These flexible seating arrangements would suit all manner of use, and the cinema client didn't want to show favouritism to any one seat, something which Wired By MJD adhered to when doing the final audio calibration, optimising the video and acoustics for the entire room.

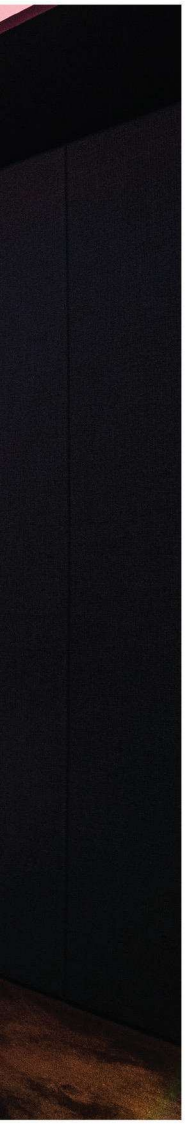
Despite the room's size being relatively small, the team also had to ensure the speakers were not too close to the listening positions (for the whole family) and not too easily located, to ensure an immersive experience for everyone.

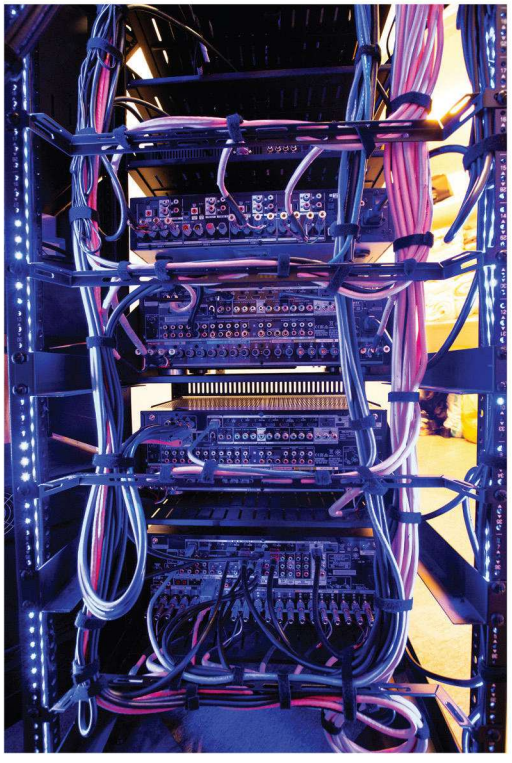
The immersive sound and picture quality the client desired was achieved using a sound system of Klipsch in-wall speakers powered by a Denon AV receiver, while for subwoofers, the team chose Sunfire HRS8s to allow the best possible sound available with the space and budget. The result, says MJD, completely transports viewers into what is happening on the 130-inch Cinemascope screen.

EQUIPMENT INCLUDES

APPLE
DENON
ELAN
EPSON
KLIPSCH
SPEAKERCRAFT
KNX
KORDZ
OPPO
THOR

Pictures: Thomas Barnes





CEDIA AWARDS 2022

CEDIA SAYS: "This versatile cinema room is able to go from cosy romantic seating to a relaxed lounging experience to one filled with lots of guests and party vibes.."

WIRED BY MJD
Greater and Melbourne Metropolitan
1300 468 634
www.wiredbymjd.com.au

BEST MEDIA ROOM
WINNER
LEN WALLIS AUDIO

Len Wallis Audio took out the Media Room category with a space for which the music-loving clients' brief was to create a room that sounded like a dedicated home theatre, but which didn't look conventionally dark and formal. Instead, they wanted a bright room that would remain suitable for casual use.

To achieve their vision and this unusual brief, Len Wallis Audio's custom installation team worked closely with the interior designer, HVAC team, and even a language translator, since the clients did not have English as a first language.

This was also a heritage home room, so exterior walls, fireplace, windows and wall structures could not be changed, requiring some clever placement of the screen, projector, and speakers to remain aesthetically pleasing while still performing as the high-end audio system the client demanded.

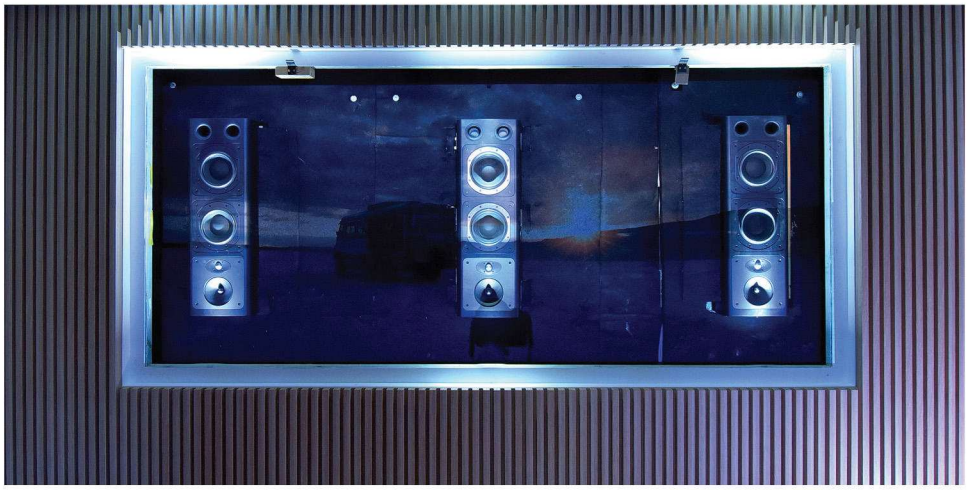
The behind-screen LCRs are Bowers & Wilkins CT8.2 speakers, carefully isolated mechanically from the wall, while on each side there is one of JL Audio's formidable In-Wall Subwoofer Systems with 13.5-inch drivers and 1000W of power each. In-wall and in-ceiling B&W speakers complete the rear and Atmos channels, all fed by Marantz's top surround processor and impressive Krell amplification. Artnovian acoustic panels control the room.

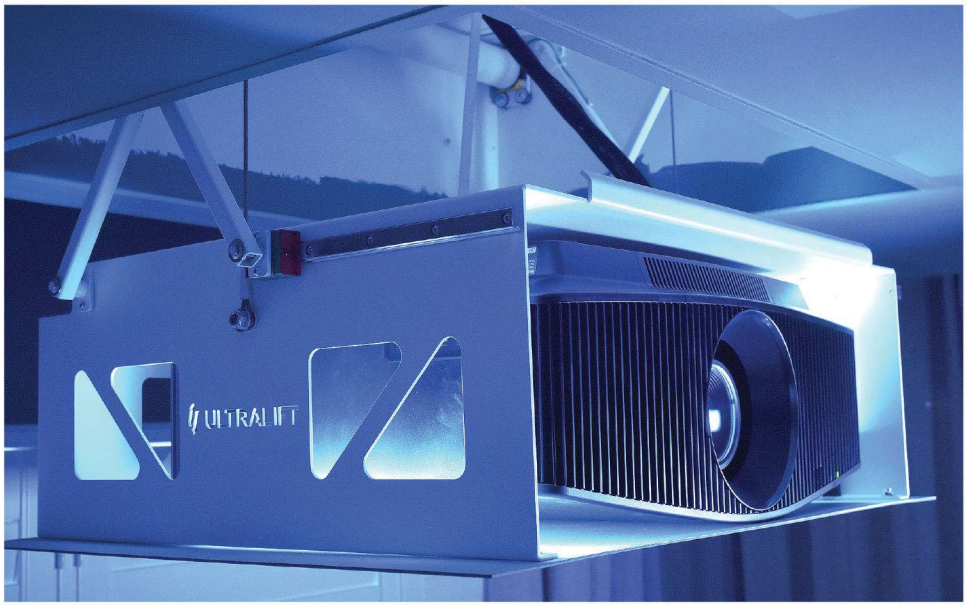
A Sony 4K projector descends for action in an Ultralift drop-down, illuminating a 141-inch Severtson screen. And when the system powers down there is a two-minute delay to allow the projector to cool before being stowed in the ceiling.

This friendly multi-use media room remains easy to operate thanks to Savant Pro programming specifically to the client's requirements, controllable via app or through Savant Pro remote devices.

EQUIPMENT INCLUDES

APPLE
ARTNOVIAN
BOWERS AND WILKINS
FOXTEL
INAKUSTIK
ISOMAX
JL AUDIO
KORDZ
KRELL
LUXUL
MARANTZ
PANASONIC
SANUS
SAVANT
SEVERTSON
SONY
THOR
ULTRALIFT





CEDIA AWARDS 2022

CEDIA SAYS: "The screen, projector, and speakers had to be installed in an aesthetically-pleasing way while still performing as the high-end audio system the client demanded."

LEN WALLIS AUDIO
Sydney & NSW
www.lenwallisaudio.com.au

BEST INTEGRATED HOME LEVEL 1 WINNER SENTIMENT HIFI

The Integrated Home Level 1 winner provides a rare glimpse inside an apartment of the old French Concession area of Shanghai. The Sentiment HiFi team was approached by a businessman who owned a villa in the suburbs, but wanted something a bit closer to his office. He chose a 300m² apartment in this premium residential area, surrounded by restaurants, shops, and phoenix trees.

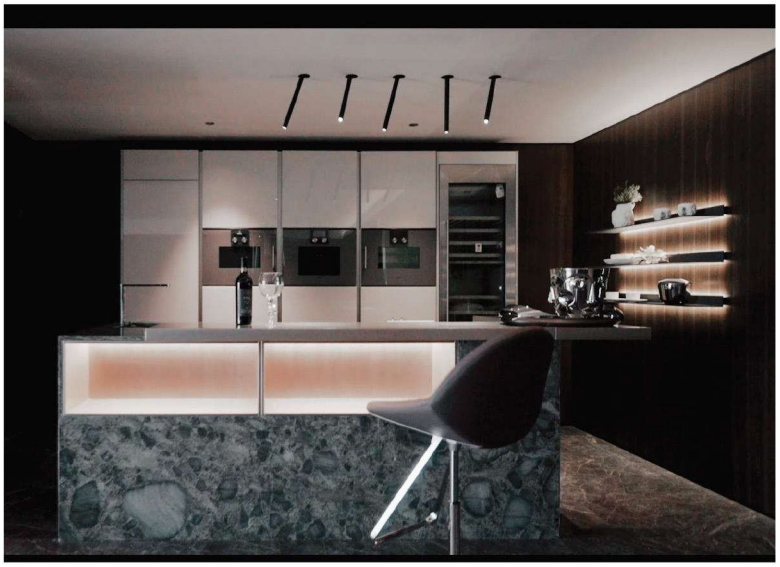
To outfit the space to his liking, the team chose a six-part system comprised of audio distribution, networking, DALI lighting control, shade control, HVAC, and security. Control is via the Chinese integration system Zhengjue, which also allows the client to control his home remotely.

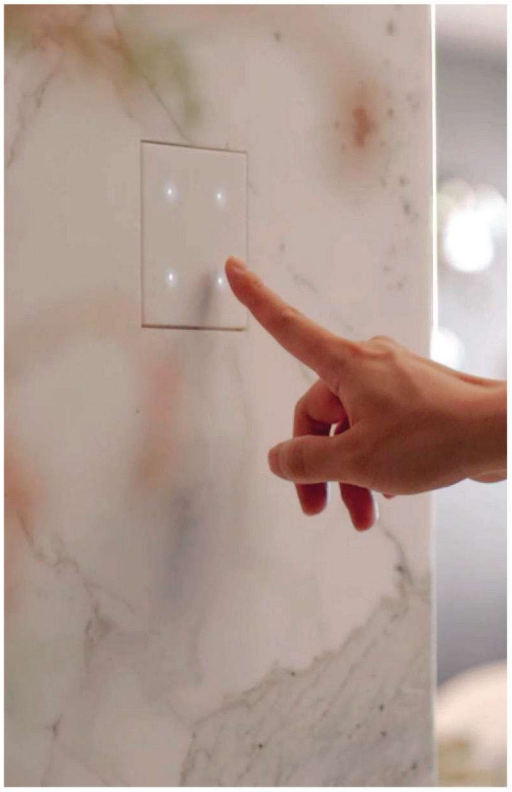
At the access gate, the client can use a single touch of a specific finger to launch the 'welcome' scene across the home. At night the shades close and the lights turn on in the living and dining rooms. But the customer can use a different finger if he has a guest with him, and this makes the lighting system spread impressively ahead, step by step, to light the whole living room from the entrance to the sitting room. There's also an emergency function built in: if the homeowner pushes the button with his thumb, then the system will discreetly send out a predefined SOS signal to a selected phone number.

The integrators programmed various lighting scenes using the KNX Home Automation and DALI systems. When night falls, the home gradually lights up to compensate for the setting sun. The shades close and in winter months the fire will turn on. On cloudy and rainy days, the solar sensor triggers the lighting system to illuminate the space, which includes a projection-based golf training space.

EQUIPMENT INCLUDES

BELDEN
CERASONAR
DOOYA
H3C
INTERRA
KANONTEC
KNX
KORDZ
MARANTZ
MATECH
MEANWELL
OBO
SEAGATE
TIANCHENG
TUTENG
VIDON
VIMAR
YUNLIAN
ZIGEN





CEDIA AWARDS 2022

CEDIA SAYS: "By carefully curated lighting, the apartment becomes as vivid and delicate as the outdoor space surrounding the building."

SENTIMENT HIFI
Shanghai, China
+86 400 007 6056
www.sentimenthifi.com

Pictures: Vinh Mangalino

BEST INTEGRATED HOME LEVEL II WINNER BOUTIQUE AV

The award for Integrated Home Level II (A$150k to A$250k) goes to Boutique AV, which succeeded in engaging a client that had already rejected several other companies. His was a tall order — he wanted everything an integrated home could offer, including multiroom AV, lighting control, motorised blinds and shades, networking, HVAC integration, security, and more. In fact, his exact words were, "I want to feel like Iron Man."

After identifying his key entertainment areas, the design team set to work on a discrete yet powerful entertainment system for the home. Video and audio sources can be viewed and played on any display or speaker installed across the sub-penthouse, the home having Sonance in-ceiling and outdoor speakers spread throughout, including the hallways and bathrooms, so that the apartment is "saturated in audio", Boutique's team tells us.

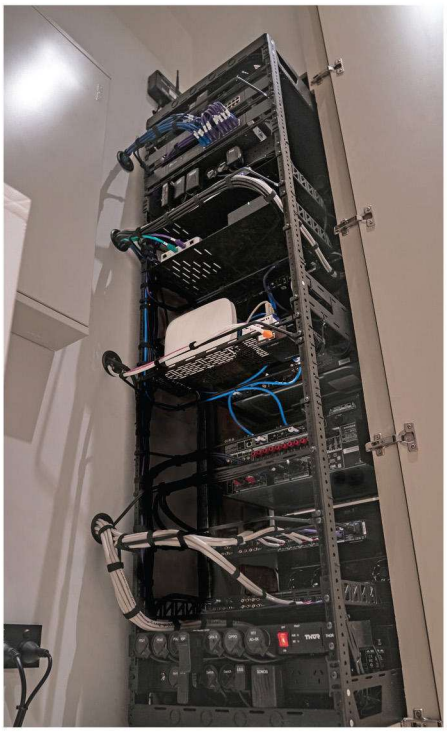
The living room features a simple 7.1 surround sound system with Integra AV receiver and high-end Sonance in-ceiling speakers paired with a large cylindrical SVS subwoofer that is carefully balanced and tuned for the client's preferred choice of music.

In party mode this zone can link to the similar 4.1-channel system in the dining room. Indeed the client enjoys a good party, and Boutique AV tells us that the real star of the show here is the custom automation and lighting. The owner has various entertaining modes available at the press of a button or voice command, setting all the lighting and blinds to a particular state, along with the audio zone grouping and triggering of set playlists.

By working closely with the team of designers, engineers, technicians, and software developers, Boutique AV built and nurtured trust, delivered attentive professionalism and creative solutions, and provided a high standard of quality every step of the way. The result: an extraordinary way of living, and a client so pleased that he has already recommended Boutique AV's services to several of his friends.

EQUIPMENT INCLUDES

APART
APC
APPLE
BLUSTREAM
CLIPSAL
COOL AUTOMATION
FOXTEL
HIKVISION
INTEGRA
IPORT
LG
OPPO
RTI
SAMSUNG
SMART VOICE
SOMFY
SONANCE
TP-LINK
UBIQUITI



CEDIA AWARDS 2022

CEDIA SAYS: "By working closely with the team of designers, engineers, technicians and software developers, Boutique AV was able to exceed expectations and create an extraordinary way of living."

BOUTIQUE AV
Nunawading, VIC 3131
1300 933 933
www.boutiqueav.com.au

BEST INTEGRATED HOME
LEVEL II FINALIST
AUTOMATION ASSOCIATES

When a retired couple approached Automation Associates about their home, their main request was that the technology be kept simple. And as the team peeled back the layers on what types of functionalities the couple was looking for, they also uncovered some fairly disparate tastes between the pair.

So to fit both sets of preferences, Automation Associates created 'his' and 'her' lounges with different functionalities. These lounges allow for unique audio-visual entertainment, plus a golf practice space for him (below), a health-conscious yoga studio for her. For times when they want to delve into each other's interests, the control systems remain identical, so there is seamless operation.

Both owners wanted a modern, clean-looking aesthetic with strong interior designer. The team faced some challenges with space constraints, but working with the designer they concealed the main Vantage control hub in a hallway cupboard and stowed the AV equipment in custom-made AV racks and cabinetry that matched the design aesthetic. Silent fans provide proper ventilation and ensure no noise interruptions.

The single-interface RTI automation system allows full control of lights including a 'warm' scene and 'away' scene. DALI luxCONTROL can transform the home with with feature light fittings, curtain and shade control, and multi-room audio inside and out. The clients are "delighted".

EQUIPMENT INCLUDES

APPLE
AUTONOMICS
BOWERS & WILKINS
CRESTRON
IPORT
LUXUL
MATCHMASTER
PANASONIC
RTI
SAMSUNG
TECHLINK
TRIAD
TRUAUDIO
UBIQUITI
VANTAGE
VOGELS
XANTECH
YAMAHA

CEDIA AWARDS 2022

CEDIA SAYS: "To ensure the system fit both of their preferences, Automation Associates created 'his' and 'her' lounges with functionalities suited for each of them."

AUTOMATION ASSOCIATES
Auckland, New Zealand
+64 9 377 3778
www.aa.net.nz

BEST INTEGRATED HOME
LEVEL II FINALIST
BRIDGER AUTOMATION

The legendary 'La Mamounia' hotel in Marrakech, Morocco, was the inspiration for this incredible home, which was begun back in 2010, taking 12 years to complete. Yet an interior designer never stepped foot on site. The clients could not find anyone who could follow their vision of encompassing exotic features from hotels around the world, so they ended up designing it all themselves, and in a piecemeal approach. When new items arrived in shipping containers, they designed sections of the home around those pieces. A normal build would select fixtures depending on the home; here the home evolved the other way around.

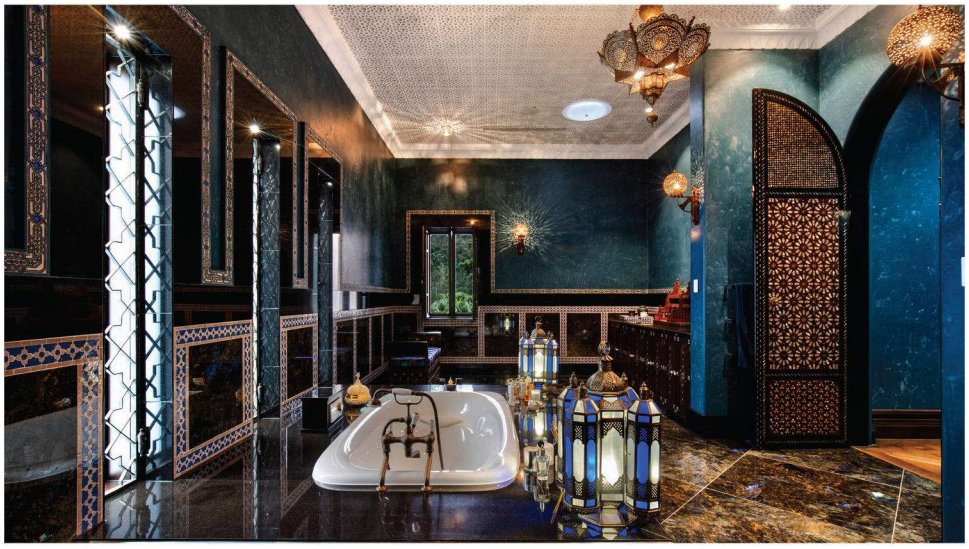
While this led to a project that was ever-evolving and inevitably time-consuming, the unique nature of the project — and an excellent final result — proved ultimately rewarding for everyone involved.

The large and unusual spaces held a number of challenges for system design. To keep the traditional Moroccan style fully intact, the Bridger Automation team made special accommodations to conceal the technology, and used as many wireless connections as possible.

All the systems are tied together by RTI automation architecture, with an RTI XP-8s as the primary control method. A Zektor 16×16 card-based HDMI HDBaseT switcher handles six video inputs and provides 16 outputs sent over Cat5e to each location using Zigen HDBaseT receivers. All audio switching and volume control is managed primarily by the Zektor 16×16 audio matrix, controlling the switching and volume control for the outputs, the audio for which is then passed to the powered amplifiers and speakers.

EQUIPMENT INCLUDES

APPLE
AVGEAR
BLUSTREAM
CLIPSAL
DYNALITE
FOXTEL
GOOGLE
HIKVISION
LUXPORT
LUXUL
PIONEER
RTI
SAMSUNG
SANUS
SONANCE
SONOS
SONY
STARTECH
STRONG
UNIFI
ZIGEN



CEDIA AWARDS 2022

CEDIA SAYS: "A normal build would select fixtures depending on the home's features, not the other way around. This led to a project that was ever-evolving and time-consuming, but ultimately rewarding for everyone involved."

BRIDGER AUTOMATION
Mermaid Beach, QLD 4218
0418 291 120
www.bridgerautomation.com.au

BEST INTEGRATED HOME LEVEL III WINNER BRIDGER AUTOMATION

ALSO WON ARCHITECTURAL CATEGORIES 'TECHNOLOGY MEETS DESIGN' & 'LIFE LIVED BEST AT HOME'

Bridger not only wins the Integrated Home Level III (A$250k to A$450k) from the main CEDIA judges with this project, it also won two architectural categories that are evaluated by a local panel of experts from the building design industry. The integrator has worked with this particular client on four separate occasions, with this one being a dual-level luxury home set along the Coomera River, which now has a feature set fit for a Hollywood movie star or billionaire CEO.

Bridger Automation installed an RTI automation system to control all lighting, security, audio and video zones throughout this home, including 12 independently-controlled AV zones, six with video zones and six audio-only. Control interfaces include tablet and phone apps, or handheld RTI remote controls. Regardless of the function taking place, the client has complete control, as was requested.

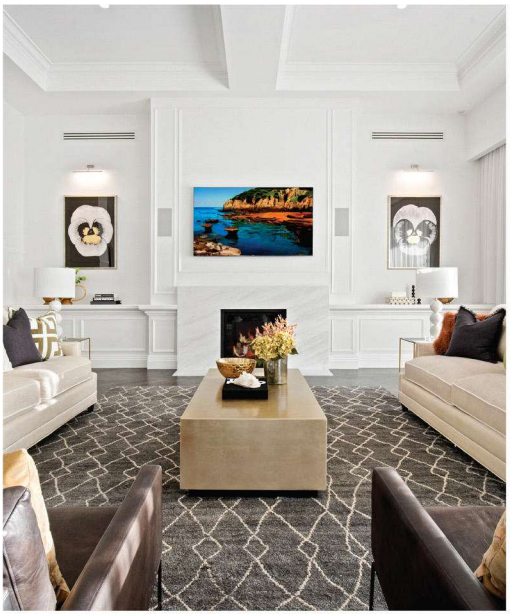
The home is inside a gated community, but the client emphasised the need for additional security, executed with subtlety. Cameras are located throughout the property inside and out. Security keypads are largely replaced by app control, remote access, wireless keyring remotes, and panic button switches. A video IP intercom controls access to the front gate from any internet-enabled app. All these systems tie into the estate's 24/7 back-to-base alarm system, with on-site patrolling guards.

The design judges remarked: "It's clear that this was a huge undertaking and collaboration between many skilled stakeholders, resulting in a superb outcome for both the homeowner and the provider."

EQUIPMENT INCLUDES

APPLE
ARAKNIS
AVGEAR
BLUSTREAM
CLIPSAL
EATON
FIRETRONICS
FOXTEL
FSH
HIKVISION
LOX
LUXPORT
PARADOX
PHILIPS DYNALITE
ROSSIARE
RTI
SANUS
SERVER EDGE
SONANCE
SONOS
SONY
SURGE-X
TAKEX
UNIFI
YAMAHA
ZEKTOR

Pictures: Thomas Barnes



CEDIA AWARDS 2022

CEDIA SAYS: "The moods the house can evoke are all part of what made the project rewarding."

BRIDGER AUTOMATION
Mermaid Beach, QLD 4218
0418 291 120
www.bridgerautomation.com.au

BEST INTEGRATED HOME LEVEL III FINALIST
ELECTRONIC LIVING

When specifying this architecturally-styled home, Electronic Living knew they had to limit the visual impact of the technology — especially considering the amount of crisp white adorning the walls. With the aesthetic in mind, the team installed TV droppers inside the ceilings, white in-ceiling speaker grilles, white CCTV cameras, and white touch-panels, allowing as much technology as possible to be camouflaged against the home's own aesthetic.

This is an expansive estate, which comprises several separate buildings, so that the integration team had to unite the main house, guest house, pool house, gate house and tennis court area under a single control system. In total the team delivered 22 audio zones — 16 internal and six external.

To ensure the highest sound quality, Electronic Living installed several pairs of high performance Sonance in-ceiling speakers in open living areas, to maintain the dispersion and coverage of audio equally across the zones.

Video distribution is handled by a Control4 6×6 HDBaseT video matrix which distributes 4K video from 4K sources. Each video zone also has an audio return connected to the audio distribution system, enabling the content to route through to the correct speakers in each video zone.

Although lighting control was proposed to the clients, they chose not to include it in the integration of the home, preferring to allocate their budget to the high performance indoor and outdoor audio system, and a home cinema instead. That would be our call too! — and ultimately Electronic Living says the clients were "very happy" with their decision, because entertainment was far higher up their wish list than lighting control.

EQUIPMENT INCLUDES

AMAZON ALEXA
ANTHEM
APPLE
AVICO
BLUSTREAM
CANOHM
CHORD
CLIPSAL
CONTROL4
FOXTEL
FUTURE AUTOMATION
KORDZ
MIDDLE ATLANTIC
PANASONIC
REGA
SANUS
SCREEN TECHNICS
SONANCE
TRIAD
ULTRAFONIC
VICOUSTIC
XANTECH

CEDIA AWARDS 2022

CEDIA SAYS: "A strong entry with a nice mix of systems and some neat integration touches."

ELECTRONIC LIVING
Brisbane, QLD & across Australia
1300 764 554
www.electronicliving.com.au

BEST INTEGRATED HOME LEVEL IV WINNER LIQUID AUTOMATION

ALSO WON 'BEST DOCUMENTATION' & 'EXCELLENCE IN RACK BUILDING'

Multiple CEDIA winners Liquid Automation take out the Best Integrated Home Level IV Award, the category for projects valued over A$450k. This installation also won two other awards — Best Documentation, and Excellence in Rack Building.

The owner values privacy, and has allowed very few images of this home to be released. But we gather they embraced the intricacies of technology and became deeply involved with its development. The client and Liquid Automation worked so closely that one of senior technicians remained on site almost full time to oversee the project.

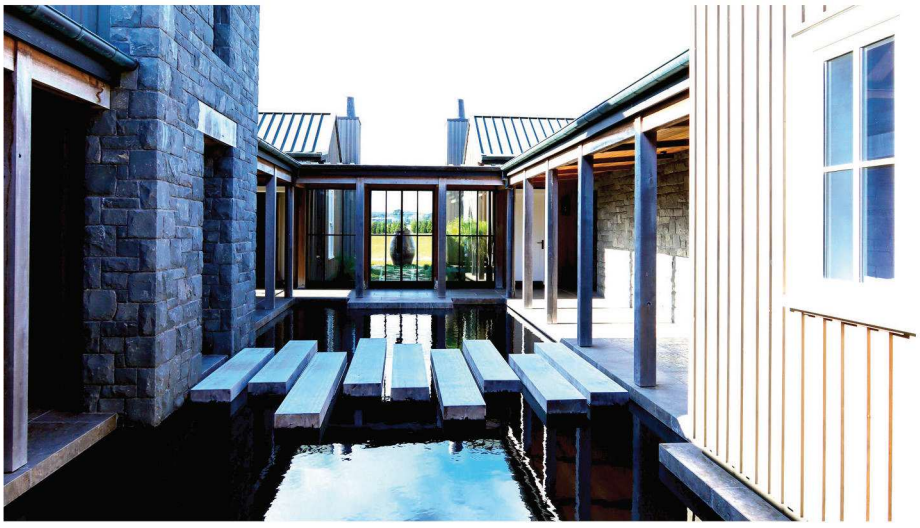
The team provided a 4K Crestron NVX AV-over-IP video distribution system to share central video sources including satellite TV, Apple TVs and a Blu-ray player to six different video zones. They also added a Crestron Sonnex multi-room audio system to distribute audio to 20 speaker zones. To control it all, the client has a total of 10 Crestron TSW-1060 fixed in-wall touch-panels, six Crestron TSR-310 touchscreen handheld remotes, and an iPad with master control of the entire system.

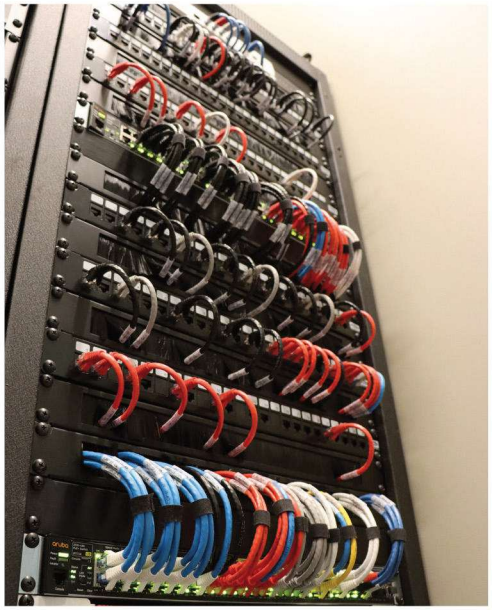
Liquid Automation says they were fortunate to have ample power available where required for the non-critical loads on the main and den AV racks. Measurements ensured those circuits didn't come close to the rating of the circuit breakers. The racks for this project were linked with minimal cabling for overall connectivity to all equipment.

A fully-documented system was developed including cable schedules and CAD drawings down to component level, allowing for an easy upgrade path for any future additions or enhancements.

EQUIPMENT INCLUDES

APPLE
CISCO
CRESTRON
DMF
DRAYTEK
JACKSON
MARANTZ
RF DISTRIBUTION
SKY
SWAMPE





CEDIA AWARDS 2022

CEDIA SAYS: "When this project first began in 2017, the client made it clear he wanted to embrace the intricacies of technology and be deeply involved through the development."

LIQUID AUTOMATION
Auckland 0632, New Zealand
+64 9 479 5415
www.liquidautomation.co.nz

australian hi-fi Show SYDNEY 2023

28, 29 & 30 APRIL 2023

BROUGHT TO YOU BY WHAT HI-FI? | australian hi-fi | SOUND IMAGE

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marantz · McIntosh · PARASOUND · PERREAUX · polkaudio · TORUS POWER · SENNHEISER

WISDOM · YAMAHA · D. DEFINITIVE TECHNOLOGY · Bowers & Wilkins · CLASSÉ · GOLDMUND · icon Audio

KYRON · MARCH audio · Serhan Swift · Sonus faber · VIVID audio · TRIANGLE · MOTHMUSIC COMPANY

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TIDAL we build emotions. · VIMBERG · PURE AUDIO FOR THE ULTIMATE IN SOUND · TELOS Telos Audio Design · HALCRO

BEST MULTIPLE DWELLING UNIT
WINNER
GOLD CLASS AV

This separate award recognises work that is undertaken for multiple dwellings, such as fitting out an entire new apartment block with smart systems, data, and an audio-visual backbone on which owners or visitors can easily build their systems.

In this boutique apartment block in Toowoomba, Gold Class AV ensured that each apartment had pre-installed dedicated Wi-Fi, with clients able to connect their personal devices to the Control4 software. It was also important to adhere to the accessibility requirements for people living with disabilities, which means that certain apartments were designed with automation in mind for guests with specific needs.

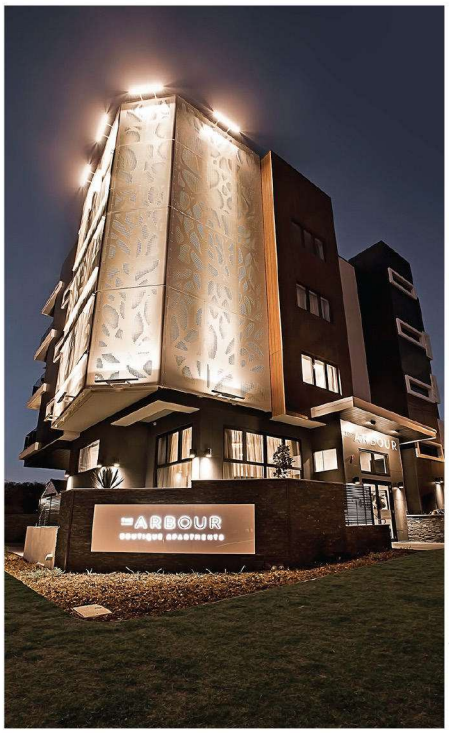
With new guests coming and going regularly, there was one unusual requirement. With no traditional front-desk staff to handle check-in and check-out, the building owner wanted a completely automated system that could handle these tasks around the clock. So Gold Class AV worked to build a complete ecosystem that would oversee the entire building.

Once a guest books a room, they are given a PIN code to access the building and their assigned room. When they enter the room for the first time, they are greeted with an automated 'welcome' function which turns on the lights and air conditioning/heat, and displays a welcome screen on the TV. At the same time, an email notification is sent to the admin team to notify them that the guest has checked in.

When it's time to check out, the guests' departure triggers a notification to the building's cleaning staff, saying the room is ready to be cleaned and prepared for the next guest. The door code automatically locks, resetting to a different unique code so that the next user has their safely ensured.

EQUIPMENT INCLUDES

APERIO
CLIPSAL
CONTROL4
DECORA
DELL
DRAYTEK
GOOGLE
INTEGRITI
KRAMER
PAKEDGE
POWERSHIELD
ROSSLARE
SEC
SONY
VOLTEX



Pictures: Ryan Hudson

CEDIA AWARDS 2022

CEDIA SAYS: ""Everywhere you turn in these apartments is a solution to a problem that has been overcome and has turned a guest's stay into more than a simple visit. Each stay is an experience."

GOLD CLASS AV
Toowoomba City, QLD 4350
07 4630 4433
www.goldclassav.com.au

BEST AUTO, MARINE, AIRCRAFT
WINNER
BRIDGER AUTOMATION

This award recognises work in automotive, marine or aircraft installations, which often have unique requirements including limited space and, on boats, salt-water exposure.

Bridger Automation won the gong for their work on this 32-metre superyacht, a process initially complicated by COVID restrictions that prevented Bridger attending the site during the build process. To keep the timeline on track, they devised the plans and schedules remotely and had the equipment drawn up and freighted overseas direct to the build site.

Once the yacht arrived in Australia, they finished the install, which included a comprehensive RTI automation system. The clients were no strangers to technology, wanting a large-scale integration which the Bridger team delivered as an AV package with 14 zones in total, 10 containing both audio and video, and four with audio only, spread over four decks.

The video zones each include a Samsung Frame Smart TV, Origin Acoustics premium marine-grade speakers, a local HEOS amplifier, RTI handheld remotes and/or wall controllers, and phone/tablet app control. Exceptions to this standard are in the master cabin and main saloon, which are upgraded with a HEOS soundbar and subwoofer. The crew quarters each have single stereo speakers and standard TVs, which kept things simple within the space limitations.

At handover the clients were so pleased that they have already begun talking about undertaking a similar installation on their next superyacht.

EQUIPMENT INCLUDES

APPLE
ARAKNIS
BLUSTREAM
HEOS
HIKVISION
IPORT
MIDDLE ATLANTIC
ORIGIN ACOUSTICS
PANASONIC
RTI
SAMSUNG
ZYCAST TECHNOLOGIES
SONANCE
SONOS
UBIQUITI

CEDIA AWARDS 2022

CEDIA SAYS: "Even amid challenges, the integrator says the process was smooth sailing… pun intended."

BRIDGER AUTOMATION
Mermaid Beach, QLD 4218
0418 291 120
www.bridgerautomation.com.au

BEST SHOWROOM
WINNER
ZENE PRIVATE THEATER

Building and outfitting a showroom is a big investment, especially when demonstrating different levels of home cinema and smart home operation.

This amazing example is in Shanghai, China, where Zene Private Theater set out to build an experience centre that would ultimately make its sales job easier. The 800m² showroom has three dedicated AV rooms including a karaoke room with 4.2 systems and karaoke lighting, plus a grand cinema with Dolby Atmos 11.4.6. It targets residential customers with luxury houses, but is also used to entertains the integrator's trade partners, friends and family.

Zene's team worked closely with interior designers, HVAC experts, acoustic consultants and automation specialists to bring the showroom to life, while following CEDIA/CEA CEB 22/23/24 standards, Dolby Home Theatre installation guidelines, and Chinese low-voltage cabling standards. In total, the showroom took five months to complete, at a cost totalling over A$1m.

CEDIA AWARDS 2022

CEDIA SAYS:
"When Zene Private Theater set out to build an experience centre, their main goal was to create a unique home entertainment experience."

ZENE PRIVATE THEATER
Beijing, China
www.zene.cn

OUR CONGRATULATIONS to all the winners and finalists in this year's awards, and we look forward to bringing you more work from some of these companies in greater detail through our regular installation features. You can find out more about CEDIA and the merits of choosing a CEDIA integrator at **www.cedia.net**

SOUND IMAGE

10 REASONS

to buy at a Hi-fi Shop

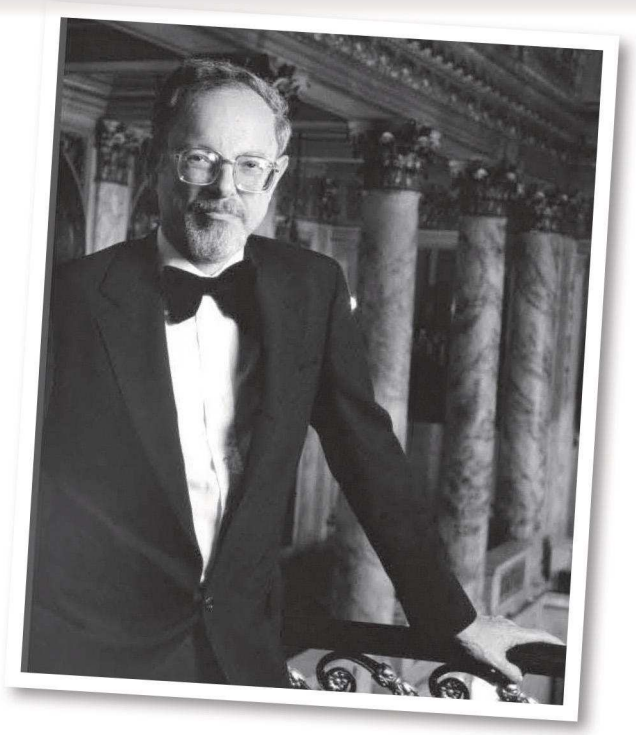
Your local hi-fi shop is passionate about sound. Why risk your music with anyone else?

	The Hi-Fi Shop	The Chain Store	The Internet
1	Talk to people with years or decades of hi-fi knowledge	Talk to people with days or even weeks of hi-fi knowledge	No people
2	Receive reliable personal advice	Bit of a lottery on the advice front	No advice
3	Expect to be asked about your needs and music	Expect to be asked about your budget	No filtering questions
4	Listen in a room environment before you buy	Listen over a noisy shop floor if you can listen at all	No listening
5	Have a nice coffee	There's a coffee shop three doors down in the Mall, mate	Make your own
6	Purchase with pride	Purchase in ignorance	Purchase with fear
7	Get a full warranty with local return point	Be offered an extended warranty you probably don't need	Warranty possibly void in Australia
8	After-sales service	After-sales what?	After-sales what?
9	Have an ongoing relationship	Rarely the same staff twice	No contact with staff
10	Relax and enjoy fine music	Relax and enjoy your mass-market bargain	Purchase and pray

LOCAL HI-FI SHOPS. The right place for the right sound.

Into another dimension

From a distribution co-operative to an iconic audio brand that has brought affordable hi-fi to millions, the growth of the New Acoustic Dimension concept "was a wonderful ride", as NAD's late great founder Martin L. Borish put it.



As NAD today celebrates 50 years since its original founding in 1972, its audio equipment is sold in some 80 countries worldwide. The company is recognised for pioneering work in amplification from the budget mid-range to the highly-regarded series of Masters series products which have pioneered ongoing development of new 'digital' amplification technologies. And in the new millennium under Canada's Lenbrook Group, NAD has successfully leveraged wireless multiroom technology from its sister brand Bluesound/BluOS to lead the new wave of smart streaming audio equipment.

Even as it has pushed to these new heights, however, its success has remained built on core values established by two key personnel: Martin (Marty) L. Borish, who died in July 2017, aged 89, and hot-shot Norwegian designer Bjorn 'BEE' Erik Edvardsen, who passed in December 2018, aged 73.

Group think

Perhaps the first origins of the ideals behind NAD can be spotted back in 1963, when the pages of US industry journal *Phono-Tape Merchandising* carried a comment from a hi-fi sales manager who wanted to make his views following a reported 'disagreement'.

"*Customers want equipment that looks good in their homes and doesn't occupy a lot of space,*" wrote the 35-year-old sales manager, one Marty Borish. "*They want integrated compact component systems that are or can easily be put into cabinets.*"

In the years to come, Mr Borish would make it just so — and then some. His idea for 'a different approach' to hi-fi was developed further at the start of the 1970s through a small group of international audio distributors looking for marketable electronics "with a non-traditional outlook" — affordable, but truly audio-orientated. Eight European distributors met in Munich, Germany, to discuss the concept, with plans to distribute initially in Germany, Italy, France, Switzerland and UK. They discussed the possibility of working as a co-operative to launch a new brand. And they even came up with a name — New Acoustic Dimension, or NAD for short.

Perhaps most enthused among this group, and certainly influential with his ideas, was Mr Borish again, who was at the table representing Acoustic Research from Boston, at the time one of the world's early true hi-fi speaker makers. Borish had got into hi-fi audio after initially following his father into the family optometry business in New Jersey, until his love of music drove him towards the idea of retailing the nascent breed of high fidelity equipment — he would now cater to customers'ears, instead of their eyes. In those days of circuits and mods he decided a degree of electronics

education would be essential to success, and he completed a Bachelors in Electrical Engineering alongside the challenge of opening HiFi Haven in 1956, his own retail shop, in New Brunswick, New Jersey. This was a success, but the excitement clearly lay in developing and designing rather than merely selling the ever-improving new hi-fi products that were appearing in increasing quantities and qualities, and he soon decamped to Boston, to become an employee of Acoustic Research, working alongside industry pioneers like Henry Kloss and Edgar Villchur. His combination of enthusiasm and understanding of retailer needs saw him rise over his 11 years with Acoustic Research to become President and CEO, and his contact with the company's distributors and dealers both in America and overseas led to that landmark co-operative discussion in 1972.

What did the market need? High fidelity at the time was driven by connoisseur classical listeners seeking the highest fidelity to concert performances. But after the musical revolution of the 1960s, the rise of rock music and the importance of the LP over the single as the 'adult' way to consume music, there was a clear opportunity to deliver an affordable path to higher quality sound for younger music fans, one that didn't require wiring your own circuits or building your own speakers — just as Borish had emphasised back in 1963. While there were already pre-built and relatively mass-market products available, the most reputable electronics brands of the time were too pricey for many, while the affordable market was dominated by poor quality imports from global electronics giants. And both types of products had become loaded with functions and complexity that NAD's founders thought got in the way of the music, and wasted unnecessary funds.

So the gift that Borish and the co-operative committee gave to us all was that their goal was not merely to deliver convenience and affordability, but to focus on audio quality, even if consumers couldn't see it, or didn't really know that they wanted it.

From some brief histories of NAD, you'd think that the classic minimalist 3020 amplifier popped out as the first fruit of this new philosophy for mid-range hi-fi. But that was still six years away. The early NAD amplifiers in 1974 and 1975 bear little external resemblance to the classics to come. "Solid craftsmanlike finish" was one of their key selling points for the NAD Model 60 (2 × 35W), the NAD 90 (2 × 55W) and the NAD 200 (2 × 100W 'with Dolby'), and the flagship came festooned with knobs, switches and VU meters presenting just the kind of complexity that was soon to be stripped away.

Nevertheless, the messages of combined quality and value were clearly expressed in the company's 1975 catalogue: "*New Acoustic Dimension — NAD for short — is a new concept in top quality high fidelity... American, European and Japanese engineers working with the leading dealers and distributors in the industry have developed a new design philosophy — to develop and offer equipment which will reproduce music so that it is as close to the original as the state of modern technology permits, in a price class which sets new international standards for performance.*"

Aside from the "craftsmanlike finish" and two-year warranty, the key claim for the

ABOVE: NAD's first 1975 'programme' catalogue.

amplifiers was the achievement of Flat Power Output, so that the rated power output was available from "extreme bass" to "extreme treble". The response curve shown in the catalogue is ruler-flat from 20Hz to 20kHz.

The range of VU meter-carrying metal-fronted 1975 NAD products also included three receivers, a tape deck, the NAD 100 tuner, and four headphones, including the electrostatic NAD 20 and the planar magnetic RP 18. They received positive reactions from many who heard them, including the press. And critically, says NAD with hindsight, it brought additional investors, which made possible a new beginning for the brand.

The next NAD

In that 1975 catalogue the NAD logo, which has remained remarkably consistent throughout its 50 years, was positioned next to the logo for Acoustic Research. By 1976 Marty Borish was so convinced of NAD's potential that he resigned his Presidency at Acoustic Research to set up a new NAD headquarters in the UK. But there was one big dilemma to solve — who could design a high-quality amplifier that could be built at the mid-range prices he wanted to hit?

1975 1977 1979 1981

Model 60 | 3080 amplifier | 3020 amplifier | 3140 amplifier

FULL DISCLOSURE POWER

Where many manufacturers pull every trick in the book to inflate their power specifications, NAD made an early decision to buck the trend and deliver reliable properly-stated figures that might actually be useful for potential buyers to assess an amplifier's performance. The difference in the resulting numbers could be enormous — and this left NAD's specification sheets over the years often showing significantly lower power ratings than rivals. But it has worked in the long run, because everyone — even jaded hi-fi reviewers like us — trust NAD's power ratings. Indeed we often find they are, if anything, understated. Our typical comment in our NAD amplifier reviews is to say that an amp may be 40W — "but remember, these are NAD watts!"

The 3080 amplifier in 1977 was the first to make a point of quoting Full Disclosure Power (FDP) into 2 ohms — something no other company was doing, or indeed could do, because their amps most likely couldn't face a two-ohm load without failure.

NAD now proclaims this as "50 Years of Truth in Power"! But it also offers an important final message: *"In the end, it's not ratings you listen to; it is music or movies playing through loudspeakers in your listening room. In other words, your own ears will tell you everything you need to know about power."*

The answer was Norwegian Bjorn 'BEE' Erik Edvardsen (pictured), who it is *de rigeur* to describe in terms such as "young genius amplifier designer". Edvardsen had studied in Edinburgh and gathered experience at ITT, Dolby Laboratories and then at Acoustic Research, from whence he had been involved in NAD from its early days as Technical Director, and had crucially forged a relationship with Taiwan's Fulet Electronic, where the company was able to achieve low-cost quality-controlled production.

With this advantage, the growing UK-based team of engineers led by Edvardsen experimented and refined their electronics, testing new circuits and new configurations.

But they still did not whip out the 3020 overnight. The next range was finalised in late 1977 and released to what was then a relatively limited distribution network for the brand — mainly high-end shops wanting something to compete with those mid-fi Far Eastern brands that dominated the lower price levels.

Those products included the 3030, 3045, 3060 and 3080 integrated amps, their power ratings indicated by the last two numbers of the model numbers… except, confusingly, the 3080, which was rated at 90W per channel. Two tuners were also released, the 4030 and 4080, and three receivers — 7030, 7045, 7060 and the flagship model, the NAD 7080 (again 90W per channel).

Here began NAD's famous habit of quoting reliable and often understated power ratings; the 3080 in particular is noted as a "world's first amplifier with FDP into 2 ohms" — FDP being Full Disclosure Power (see panel).

The relatively small numbers of this 1978 range make them a rare find these days, and early reviews were not 100% laudatory; the UK's David Prakel remembers the publisher of *Hi-Fi Sound* getting "a letter questioning my parentage" from NAD's UK distributor following a fairly non-critical review of the 7060 receiver, though this led to a review in *Hi-Fi Answers* of the 3030 which was far more positive.

UK PR legend Andy Giles remembers arranging for journalists to meet the young and enthusiastic Edvardsen in person, at a time when there was a new model under development, rated at a mere 20W per channel, but with a few tricks behind its shockingly plain fascia.

The people's amplifier

Famously, the NAD 3020 became the best-selling amplifier in history. Not that initial reactions to its appearance promised such success.

"We joked about its military look," *Stereophile*'s Jon Iverson told Stephen Mejias in a 2013 article. Mejias also described the original 3020 as "*a rather funereal but purposeful-looking thing with a drab gray chassis and large, blockish buttons… and the kind of cheap plastic speaker-binding clips that too easily break when carelessly used.*"

Yet Iverson remembers sellings "boatloads" of them, noting that crucially "it always outperformed any similarly-priced receiver. It gave us a secret weapon with a great story — killer sound, perfect set of features, and nothing more."

Critics around the world agreed — there is surely no low-power amplifier in hi-fi history that has received such praise. The 3020's accuracy, musicality, and seemingly effortless power made

1981 1987 1992 1993

6150C cassette deck

6220 cassette deck

502 CD player

302 amplifier

it "the people's amplifier" as well as the hi-fi hub of choice for thousands of students and first-time system builders.

"When our customers bought a 3020, they felt like they had turned the corner and stepped up to caring about sound," recalled Iverson. "If you walked into someone's apartment and they had a 3020, you thought to yourself, 'Yes. This person has audio discernment.'"

That's a lot of audio discernment, then, given NAD is believed to have sold more than a million 3020s, with its ongoing variants, the 3020A, 3020B, 3020E, 3020i, and through to the radical revisitation of the latest D 3020 V2 compact amplifier bearing its number.

So what made the 3020 such a success? Certainly the simple and unpretentious exterior kept more funds available for the circuits within, and NAD had gone without gimmickry to concentrate on the essentials. Not that the 3020 was shorn of all versatility — quite the opposite, indeed. Removable jumpers on the rear panel allowed users to tailor the 3020 to their specific needs. So the preamp outputs could be used with a different power amp, while for its own power stage there were two sets of inputs, one of which ('Normal') filtered both subsonically and infrasonically, the other ('Lab In') being direct.

But perhaps its two biggest secret weapons were its Soft Clipping circuit, and a variable 'Loudness' control. The latter enabled the amplifier to maintain its sense of balance even at low volumes, with lower frequencies still full even under casual use and the amplifier able to deliver its inherent musicality.

The Soft Clipping circuit was Edvardsen's master stroke. It enabled an amplifier of this price level to perform beyond its natural abilities with just the kind of speakers with which it might be partnered, and in situations where it might be overdriven. Instead of clipping distortion, the Soft Clipping circuit limited the amount of high-frequency energy delivered to the speaker, reining back gently as the point of clipping approached. This not only protected tweeters from frying, it allowed much clearer sound reproduction, and higher volumes than would otherwise be possible. Purists with better speakers didn't need to use it — it could be switched off. But for party time? Turn it on. It was a perfect implementation for exactly the kind of rock and pop fans NAD had always wished to address.

Our favourite description of the 3020 comes, perhaps appropriately, from another Norwegian, Karl Erik Sylthe, writing on audiophile.no. The 3020, he says, seemed "*apparently a pingle, with its 20 watts. However, tests with speakers accounting for very demanding loads showed that it coped excellently, and served both sound and power adequate for most tasks from its simple and unpretentious cabinet, coupled with the flexibility pre-out/main-in link provided, and a sympathetic low price.*"

With such abilities, the 3020 became an unlikely status symbol for budding music fans.

A platform for success

So with the 3020, NAD developed a huge customer base, which included a cult-like following enthused by ongoing releases. Success also delivered funds for investment in innovation for its stripped-back design and audio-focused engineering. And it enabled the company to keep up with new technologies.

In 1981 the company's 6150 C cassette deck was the world's first to feature Dolby C noise reduction, while the 3140 amplifier was the first with Bass EQ (then called 'Speaker EQ' in its manual), providing a 12dB per octave boost below either 45Hz or 70Hz depending on your switch setting. NAD offered three reasons for this inclusion — the rapid bass drop-off of many speakers, the deliberate bass filtering applied during vinyl mastering, and the tendency of listening rooms to bias mid-bass frequencies through standing waves, requiring a correction in the lower bass. As a fourth reason they could have added "and some people just like more bass".

It's a preference that has survived — 'Bass EQ' still exists on the latest D 3020, though it's relegated to a small button at the back where it can't be accidentally activated.

NAD's first CD player came in 1984, and another new amplifier technology in 1985, NAD's "Power Envelope", first appearing in the 2200 power amplifier and evolving into what NAD today calls PowerDrive, a patented amplifier circuit that uses a dual-rail power supply that can "*handle the rough terrain, much like an all-wheel drive automobile, slipping automatically into this control only when needed*". The result is high dynamic power and low impedance drive capability able to continuously drive a four-ohm speaker load at full bandwidth, and with all channels driven simultaneously — or in sonic terms, explosive dynamics and control even with highly demanding speakers.

In 1991 NAD was acquired by its Danish distributor AudioNord, which held the company until 1999. It wasn't an entirely successful marriage. Although under AudioNord NAD delivered technologies such as NAD LINK and products like the NAD 502 CD player and the 302 and 304 integrated amplifiers, which found acclaim and awards, the new owners continued to focus on stereo offerings at a time when many potential purchasers were looking to expand into home cinema and surround sound. It was 1999 by the time profitability returned, and in May that year AudioNord sold NAD to another NAD distributor, this time in Canada — Lenbrook.

Over to Lenbrook

Thankfully Lenbrook didn't see NAD as "just a brand", and clearly Lenbrook didn't see itself as just a distributor either. NAD came to Lenbrook with its original skill-set intact — Bjorn Erik Edvardsen was still with the company, Marty Borish was still a board member, and under the leadership of Lenbrook's Robert Brown and Gregory Stidsen, the new team set out not only to build NAD back to greatness, but to establish a group of innovative audio companies around it. These include the Canadian PSB Speakers, with legendary designer Paul Barton, and the Lenbrook-developed Bluesound, which launched into the streaming multiroom

1998

T 770 AV receiver

2001

C 660 CD recorder

2005

Masters M3

2007

VISO 30 speakers

NEW AMPLIFIER TECHNOLOGIES

During the 'noughties', NAD began investigating a new raft of Class-D amplification technologies, which were still at the time regarded with suspicion by many in the industry. NAD saw the promise before most, and in 2009 introduced its first amplifier with Direct Digital power, in collaboration with the UK's Diode Zetex, and then 'Hybrid Digital' amplification, which harnesses Hypex's UcD (Universal Class-D) technology. Unlike the active digital processing used for error correction in Direct Digital, UcD uses a switching analogue amplifier with such low open-loop distortion that the whole circuit is able to achieve self-regulation. In higher level products, greater control feedback brings a dramatic reduction in distortion along with higher current capability. This loop is the difference between UcD and the 'Ncore' amps used in higher products.

Many other companies subsequently adopted Hypex modules. But NAD has found a new partner in Denmark's Purifi Audio (which includes Bruno Putzeys of Hypex), and has adopted its Eigentakt amplification technology in order to deliver amplifiers that go further still. The first to feature Eigentakt was the Masters M33, a full BluOS streaming DAC and integrated amp in 2020. The M33 combined the ease of BluOS with such effortless and thrilling-sounding power that it won multiple awards globally, including from EISA and from ourselves.

space as perhaps the most accomplished of platforms, including high-res file playback. We gather that Marty Borish wasn't without influence in the initial development of Bluesound.

But it still wasn't an easy start for Lenbrook. By now NAD was producing AV receivers, including in 2002 the 'Solution Series' of all-in-one DVD receivers, but it was playing catch-up with mass-market brands, and encountered other problems over reliability and product overcomplexity. Speaking at the time, Lenbrook's Chairman and NAD's President Robert Brown told *Forbes*, "We've had to redesign the whole product line. It cost us millions of dollars. But we didn't have a choice."

So it was perhaps only in 2003 that NAD hit its stride in this sector, with the powerful five, six, and seven-channel models of the AVR Series.

Masters of sound

Meanwhile in two-channel, Brown hinted in *Forbes* at what was to come — "a fancy alternative that appeals to music lovers". There was some snobbery against NAD, the maker of "student systems", while *Forbes* noted that NAD's "*mid-fi market is crowded with rivals, including premium brands that Onkyo, Pioneer and Sony have created, the same way Toyota created Lexus.*" But Brown was having none of it.

"All those people who bought their big TVs will come back, and their next purchase is going to be in audio," he told *Forbes*. "We can survive and prosper."

And then in 2005 came the first NAD Masters series, announced as the ultimate achievement of its legendary engineer.

"*Bjorn Erik Edvardsen!*", trumpted the announcement. "*Over decades his work has earned 5-Star reviews. But the new Masters Series is his new benchmark for superiority*". It was based on three principles: "*proprietary thinking, technological breakthroughs and unsurpassed specifications*," said the company, so defining a new, more challenging level of engineering. "*The Masters Series is built far better than systems have to be. It has massive quality within. Nothing was spared, from the use of one-of-kind "Holmgren" transformers, to special 'wave form' heat sinks and housings of thick high-grade steel. Instead of mere build quality, we call it NAD Build-Artistry.*"

The new range included both stereo and multi-channel solutions, and it did what Brown wanted, defining a new level of performance for NAD. But the secret weapon was still to come.

Going 'digital'

In 2009 NAD's M2 amplifier swept away any conceptions still clinging from the classics that NAD was a company that made budget amplifiers. It had the 'Masters' tag and a stylishly purposeful design, but the M2's boldest shout-out was the prominence given to its use of 'Direct Digital' amplification, included as part of the model name, no less, at a time when the use of 'digital' amplification was still being greeted by your average high-end hi-fi aficionado with not so much a raised eyebrow as a raised cross.

NAD was one of the first companies to investigate alternative new amplification types and to decide in their favour, and it was certainly the most prominent to emblazon its decision on the resulting product at the very top of the features list as a big bold benefit. Equally interestingly, though, NAD clearly agreed with the criticisms laid at the door of Class D amplification in general. A white paper released with the M2 had NAD's Greg Stidsen and Diodes Zetex's Craig Bell coming together to highlight the problems of Class D, and explaining why Direct Digital wasn't like that.

The Direct Digital method converts PCM digital signals to pulse-width modulated (PWM) signals — pulses of fixed height but varying width, as opposed to fixed width but variable value. These can be amplified directly by FET transistors up to ±50V, before passing through a rather critical tuning filter to drive the speaker outputs pretty much directly, as the name suggests. According to NAD it is the implementation of digital feedback at this filter point that allowed Direct Digital to do so much better than standard Class D, "reinventing

2009

M2 Direct Digital amplifier

2012

VISO 1 Music System

2015

M50.2 Digital Music Player

2017

C 338 Hybrid DIgital amplifier

BLAST FROM THE PAST: the special edition C 3050 LE revisits the first burst of iconic NAD styling in 1977, but with thoroughly modern components and abilities.

feedback", as the engineers put it. They described the M2 as essentially a computer-controlled DAC which also amplified.

Direct Digital was only the first new amplifier technology adopted by NAD. The company began working with Denmark's Hypex on what became 'Hybrid Digital', which it currently employs on models right down to its lower product ranges, thanks to the ability to draw on two versions of the Hypex amplification technologies (see panel). Higher models use Hypex's Ncore modules, increasingly found in the most high-end of amplifier brands which have clearly followed NAD's lead in appreciating the technology's strengths. But the earlier and slightly simpler Hypex UcD (Universal Class-D) technology still delivers remarkably flat frequency response irrespective of load impedance, and so is ideal for use in amplifiers right down to the current C 328 and C 338, the latter of which was the first hi-fi amplifier to come with Chromecast built in, and another product to net awards from both EISA and ourselves at *Sound+Image*. We noted at the time how these junior models seem very much the modern successors to the 3020 series.

Chromecast is one thing; the full streaming and multiroom platform of BluOS is another. Lenbrook siblings NAD and Bluesound have forged a powerful partnership together, NAD assisting with amplification in Bluesound's standalone products, while the BluOS platform has been incorporated front and centre in key NAD amplifiers, from the Masters M10 with Hybrid Digital nCore power (now in its version 2) to the latest C 700 BluOS Streaming Amplifier, a dinky unit with a big colour screen and UcD amplification. These are leaders in the growing 'smart' market of streaming amplifers.

Meanwhile in the last couple of years NAD has introduced a new amplification partner for its Masters series in another Danish company, Purifi Audio, which includes Bruno Putzeys of Hypex. NAD is clearly excited, describing Purifi's Eigentakt amplification technology as "*a once-in-a-decade amplifier innovation*", and providing its debut in 2020 inside the Masters M33 BluOS Streaming DAC Amplifier. It was a brilliant performer, winning yet another Sound+Image Award, and proving still further that 'digital' power technologies can rival the best in more traditional Class-AB.

Purifi's Eigentakt power is now available in the M33, the M23 and C 298 Stereo Power Amplifiers, and the M28 Seven Channel Power Amplifier — and we strongly expect more to come.

Another innovation which marks out many NAD models is the company's Modular Design Construction, which gives its higher-end units quick and easy upgradeability to new technologies or additional abilities (including a BluOS module), so providing versatility and useful future proofing

The combination of compact digital amp technologies and BluOS has also seen NAD enter the custom installation market with rack-mountable single and multizone players and amplifiers.

Fifty years on, then, NAD's core values seem as central as ever to the continuing evolution of this unique brand. Over its five decades, it has enjoyed 'a wonderful ride', as the company's late founder Marty Borish put it. And it ain't over yet. ⊣

2019

Masters M10 BluOS Streaming Amplifier

2020

Masters M33 BluOS Streaming DAC Amplifier

2022

C 700 BluOS Streaming Amplifier

2022

C 3050 LE Stereophonic Integrated Amplifier

NEIL YOUNG WITH CRAZY HORSE *World Record*

Late-career creative burst proves life yet in this still growling old dog.

Which Neil Young will grace us today? The 2022 version recasts him as *The Fast Show*'s Dave Angel: Eco Warrior. Focusing on climate change, war and a broken relationship with his once beloved cars, 'World Record' is Young reminding us that the planet is in trouble. It's less trite than that sounds, although he'll probably regret hollering 'no more war; only love' on *Walkin' On The Road (To The Future)*.

Never unafraid to unleash chaos, Young has been muddying his own waters of late with 'Noise & Flowers', 'Toast' and 'Homegrown' — previously unreleased albums from the past — but in simple terms 'World Record' is the successor to last year's Crazy Horse collaboration 'Barn'. A certain striving for "authenticity" remains. As a result, Young, Nils Lofgren, Billy Talbot and Ralph Molina recorded live to analogue tape, and there's some contrived between-song hiss if you listen closely. It doesn't matter. 'World Record' never sounds tossed off, and you suspect a producer as diligent as Rick Rubin would have rolled his eyes and got on with making a terrific record.

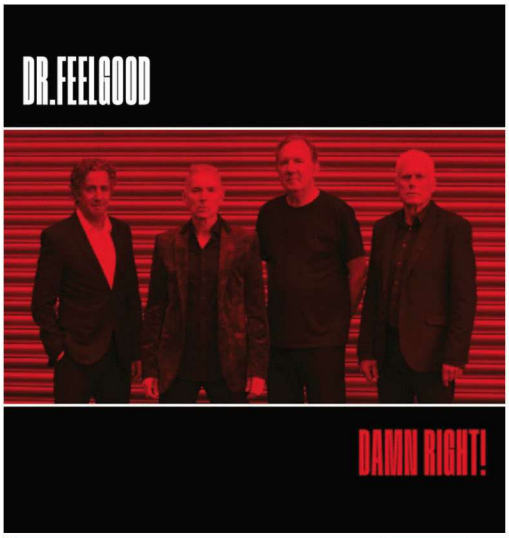
Musically the album is all over the place without misplacing the 'Quality Control' button, and that's what makes it so strong and so engaging. Thus, *Love Earth* begins its journey in American Stars & Bars fashion until, apropos of absolutely nothing, a whopping Glitter stomp rudely interrupts the serenity. It's fantastic.

And before you can say 'like a hurricane', Young is at his best when he's at his most ruefully wheezy, hence the folk-rap of *The World (Is In Trouble Now)* and the affecting near-nursery rhyme *The Long Day Before*, where Crazy Horse add atypically serene, gospel-tinged harmonies. Yes, Young is cross, but he's elegiac too, and when piano and steel guitar lead *This Old Planet (Changing Days)* he's even sweet-natured.

There's heft on the record too, though. The ferocious 15-minute *Chevrolet* feels like a real turning over of the temple tables. A turbo-charged, mostly instrumental guitar attack that wouldn't have sounded out of place on 'Weld', it finds Young lamenting the passing of the car as a viable form of transport "on the dusty lanes of this old highway".

We already knew there was life yet in this prolific old dog, of course. What perhaps we didn't quite grasp was that even in the late autumn of his career, Neil Young can turn in something as vital and musically catholic as 'World Record'. We're so lucky to have him.

John Aizlewood



DR FEELGOOD

Damn Right!

They does it right.

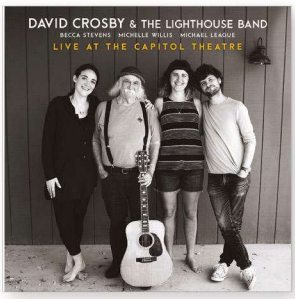
That name… To be frank, it's always going to conjure images of an entirely different band. Wilko (*vale!*), Figure, Lee, Sparko: that's Dr. Feelgood. At least it was for their first six years. Next year, three-quarters of today's Feelgoods (Phil Mitchell – bass, Kevin Morris – drums, Gordon Russell – guitar) will have been members of the band, off and on, for four decades. Incongruously Mackem vocalist Robert Kane has been on the Brilleaux beat for 23 years. Yet wherever they go there's always some purist smart-arse playing the "Yes, but…" card. They really ought to have changed their name. That said, I'm not the one trying to book their gigs.

Following an extended (17-year) studio lay-off, 'Damn Right!', the quartet's first album of all-original (Kane/Russell) material, finds a combo in rare form. From the fat, rockabilly twang of *Don't Pull Your Punches*, through the raw, Thames Delta lope of *Put The Blame On Me*, to the heavy-lidded, harmonica-laced R&B moodiness of the bang-on-concept *I Need A Doctor*, 'Damn Right!' is exactly the sort of record that Lee Brilleaux would be making were he still with us, yet unequivocally boasts an engagingly vivacious individuality that's all the band's own.

Call them what you like, you'd be a fool to dismiss an excellent record for who isn't on it. **Ian Fortnam**

DAVID CROSBY & THE LIGHTHOUSE BAND

Live At The Capitol Theatre



Although this was recorded in Port Chester, NY, four years ago with his well-harmonised outfit the Lighthouse Band, this might be the last time we hear David Crosby trot out his homilies and homages to a long-gone era.

The night in question found Crosby in decent voice — more surprise than blessing when the newish material is heard. *Things We Do For Love* and the wishy-washy *Vagrants Of Venice* are pleasant but dull, so it's a wait for the old stuff with fingers crossed. The quiet long run arrives with hippie anthems *Guinnevere*, *Carry Me* and *Déjà Vu*, chased down by Woodstock. Sadly it feels like nostalgia for no apparent reason. **Max Bell**

IRON MAIDEN

The Number of the Beast

Forty years on, a classic is reissued with a key difference and an added vintage live set.

With the band's former singer Paul Di'Anno having eaten, drank and drugged his way to dismissal after the 'Killers' tour the previous year, and with their last single having not even charted, it was rebirth or bust for Iron Maiden when they went into the studio in '82 to make their third album.

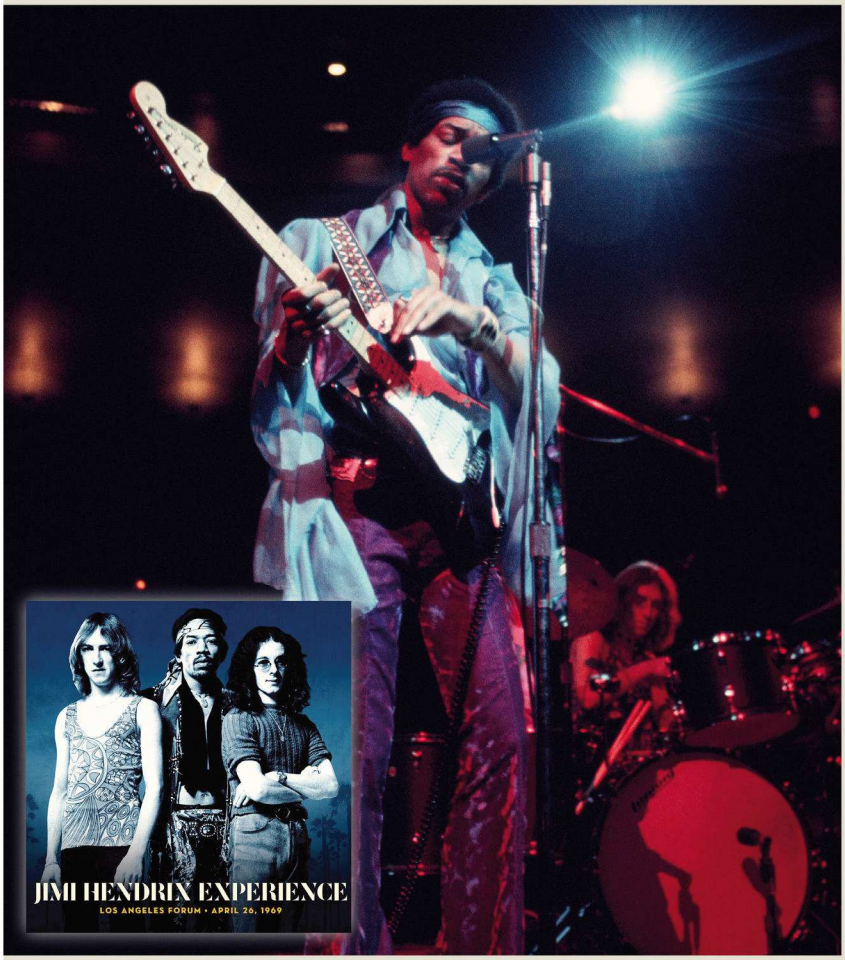
'The Number Of The Beast' proved to be a glorious example of the former, and proof of it can be heard in the opening bars of this triple vinyl reissue: *Invaders*, a typically high-octane, exhilarating tale of the enemy coming over the horizon, establishing Maiden's stock-in-trade — a galloping metallic anthem full of fearful talk of war, carnage, derring-do and Horrible Histories-style mayhem.

But it wouldn't have worked half as well without their new singer. Compare the charismatic delivery of *Invaders* to the version (then titled *Invasion*) on the B-side of *Women In Uniform* (yes, a Skyhooks' cover) 18 months previously. Something about new arrival Bruce Dickinson's vibrato-wired, just-short-of-hysterical voice adds an extra sense of urgency to Maiden's sound.

GETTY

And so it proves time and again across the rest of the album. The song-writing has made a great leap forward, with the sound still full of vim but more punch and less punk bluster, and lyrics moving fully into the storytelling realm, with the likes of *Run To The Hills* and *Hallowed Be Thy Name* offering narratives far more fully realised and compelling than, say, 'Iron Maiden's gonna get ya'. *Run To The Hills* is also Steve Harris's first seriously successful attempt at an epic composition influenced by the prog bands he'd loved as a teenager.

The album is not perfect, of course. Even if *22 Acacia Avenue* makes a more sympathetic address to the anti-heroine of *Charlotte The Harlot* than the original, it's still pretty cringe-inducing in the era of #metoo. Meanwhile, on this reissue Steve Harris has opted to replace *Gangland* with *Total Eclipse*, righting a wrong he's long expressed regret over. But when this is supposed to be a celebration of the original, it seems like an unnecessary airbrushing of history. These are trifling complaints, though, and the inclusion here of the 'Beast Over Hammersmith' live set, on which we hear many Maiden fans hearing these songs performed for the first time, two days before the album's 1982 release, adds to its celebratory feel. **Johnny Sharp**



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JIMI HENDRIX EXPERIENCE
Los Angeles Forum, April 26, 1969

Jimi pulls off a blinder despite stage invasions, heavy-handed cops and intra-band friction.

"It was a very good one… It's being recorded! By whom? For whom?" declared Noel Redding's diary entry for April 1969's gig at LA's Forum. The ever-griping bassist, who would leave Hendrix that June, got his answer when most of the show turned up on 1990's 'Lifelines' box set.

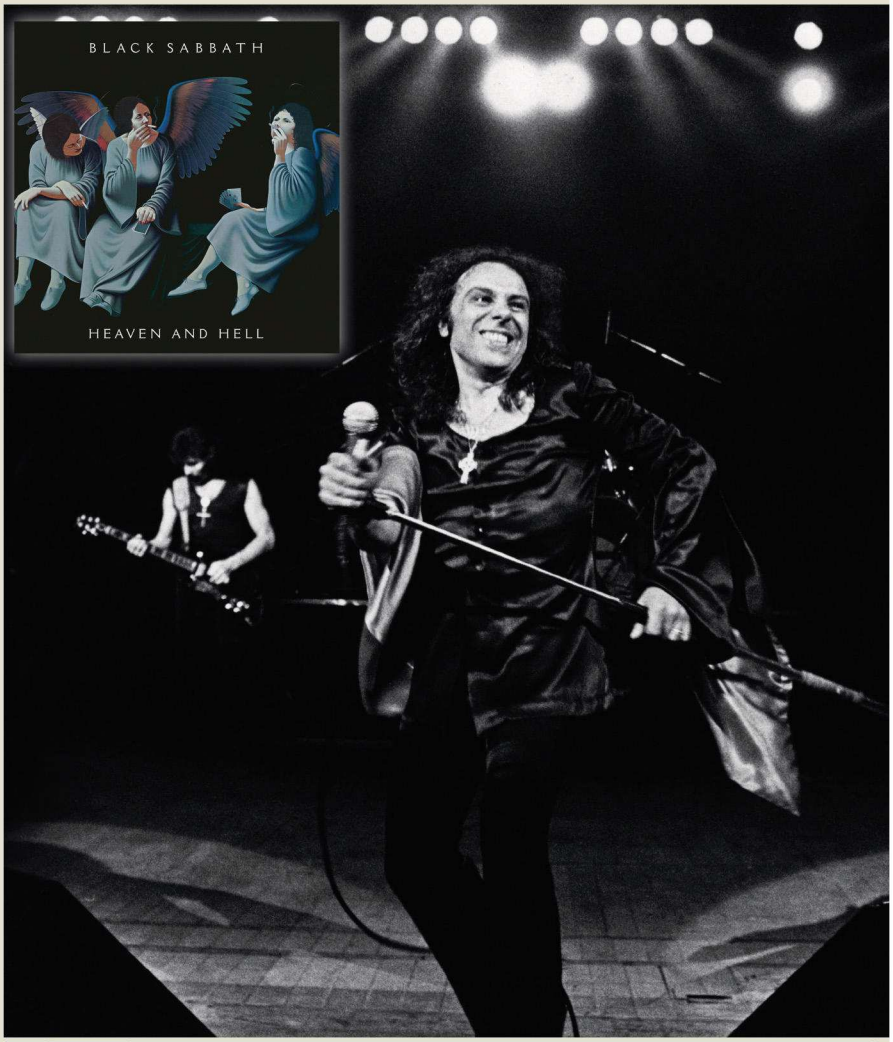
Now upgraded by Experience Hendrix, the recording from that night perfectly captures the conflict between Jimi's ever-questing genius and outside pressures in a tumultuous year that also saw his liberty-threatening heroin bust, short-lived Woodstock band and, embracing black roots, the formation of Band Of Gypsys to honour a predatory lawsuit. Happiest forging his fourth album at New York's Record Plant, Jimi felt shackled playing big arenas but, with professionalism ingrained from his chitlin' circuit days, instinctively put on a show, stretching chestnuts into improvisational flights.

In this set the sometimes tangible friction between Hendrix and Redding is bridged by Mitch Mitchell, playing the first of two drum solos in the opening jam around the instrumental *Tax Free*.

Hendrix initially dispenses flashes of supernatural guitar brilliance more like reflex reactions than extended reveries, although a mercurial *Red House*, followed by jazzy chording and sustained meteor storm that extends *Spanish Castle Magic*, is thrillingly cathartic. Freak-out fusillades in *Purple Haze* and *I Don't Live Today* ignite the 17,000 audience, many rushing a stage already overrun by cops.

Hendrix sounds unsettled, asking the audience to sit down ("to get rid of the other folks"), before coaxing cheeky 'fuck you's from his guitar. After he settles the audience down, the set roars to a sizzling close aboard a savage 17-minute medley of *Voodoo Child (Slight Return)*, Mitchell's second drum solo and Cream's *Sunshine Of Your Love*, Hendrix marking his crowd-control triumph with the night's most devastating guitar salvo.

If not a classic tour de force, this pressure-cooker set remains an era-capturing document of the social turmoil and pressures Hendrix faced as the world's greatest rock guitarist, always burning to make his next move. *Kris Needs*



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BLACK SABBATH *Heaven And Hell / Mob Rules*

Deluxe editions of the Dio-era classics.

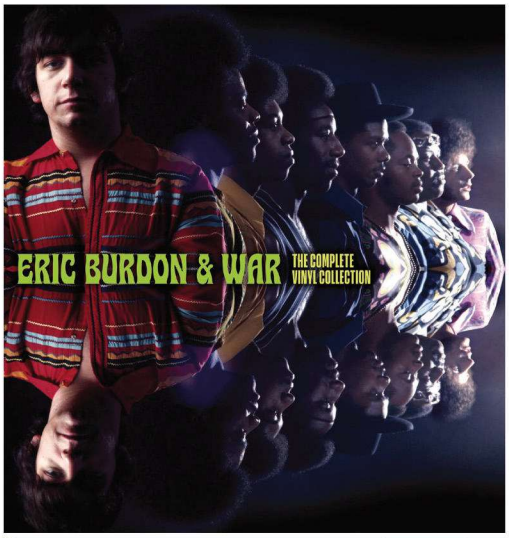
In 1979, the planets seemed to have aligned for the greatest of all heavy-metal bands and the greatest of all heavy-metal singers. Black Sabbath were a band without a frontman after sacking Ozzy Osbourne, and Ronnie James Dio was a frontman without a band, having quit Rainbow. By chance, Sabbath's guitarist Tony Iommi met Dio one night in LA, and on the first day they worked together, the magic happened. Iommi had a riff. (He always had a riff.) Dio pulled a melody out of the air. He had a gift for that. The result was a song of power and beauty, titled *Children Of The Sea*. It was a new beginning for Black Sabbath, a new sound that would be developed in two monumental albums: 1980's 'Heaven And Hell' and the following year's 'Mob Rules'.

'Heaven And Hell' is the masterpiece that Dio cited as the pinnacle of his career. Bassist Geezer Butler considers it equal to the definitive Sabbath classics: the first six albums. Dio had created music on an epic scale with Ritchie Blackmore in Rainbow, and so it was with 'Heaven And Hell', his poetic lyrics steeped in ancient mysteries, his voice phenomenal in its power and range. Most of all, it was his melodic finesse that brought a new dimension to Black Sabbath. Iommi's solos have an emotional intensity unlike anything he had recorded before, and along with the heaviness of Sabbath legend, there is a sense of grandeur and high drama in the album's key songs: *Children Of The Sea*, *Die Young*, the colossal title track, and the thunderous *Neon Knights*, arguably the most heroic heavy metal song of all time.

'Mob Rules' is almost as great. A new line-up, with drummer Vinny Appice having replaced the great Bill Ward, delivered head-banging fury in *Turn Up The Night* and the title track, and epic pieces with a darker atmosphere in *Falling Off The Edge Of The World* and *Sign Of The Southern Cross*.

The new Deluxe Editions of both albums are different from the 2010 releases, but while 'Heaven And Hell' includes previously-released live material, 'Mob Rules' has a USP: a full live set from 1982, when Dio was about to quit the band he had done so much to resurrect.

The Sabbath story would continue, with and without Ozzy and Dio, for decades to follow, but never again would the band make albums as great as these two. *Paul Elliott*



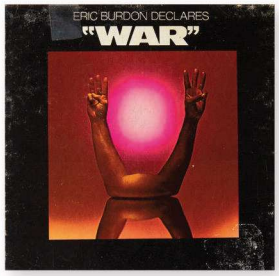
ERIC BURDON & WAR

The Complete Vinyl Collection

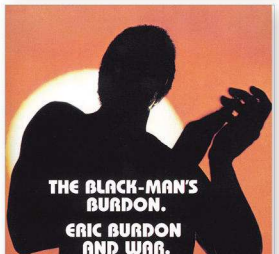
Their three albums on multi-hued vinyl.

Huddling with the bedraggled few thousand braving rain as Eric Burdon & War made their UK debut at September 1970's Hyde Park free concert, it soon became apparent that the former Animals powerhouse, rated one of the UK's finest blues singers, was into something fearlessly unusual for the time in fronting pioneering mixed-race club band War.

After LA producer Jerry Goldsmith facilitated the hook-up for April 1970's 'Eric Burdon Declares 'War'', many regarded War as Burdon's latest backing band. Yet this was something else as the Geordie dynamo's voice became another instrument on improvised work-outs around the Nashville Teens' *Tobacco Road* and their own *Roll On Kirk*. The animated Latin vamp of *Spill The Wine* became a worldwide hit.



December's 'Black Man's Burdon' stretched to a double, kicking off with a breakneck *Paint It Black* before settling into a 90-minute street suite of skin-tight grooves underpinning Burdon's counterculture rants and reflections. Despite a bizarre *Nights In White Satin*, closing soul ballad *They Can't Take Away Our Music* shows him on incendiary form and War a Latin-jazz-R&B force of nature bound for glory.



After splitting in '71, Burdon never reached such heights again, while War low-rode to global success that motivated 1976's 'Love Is All Around' grab-bag of out-takes (including a remarkably effective *A Day In The Life*) and live recordings.

Such barrier-breaking collaboration would soon be commonplace, but those first two statements still hold their own from that verdantly trail-blazing era. **Kris Needs**

TODD RUNGREN

Space Force

World in shock as Todd makes weird album.

Spending your career dressed like a butterfly and also providing hair inspiration for Billie Eilish suggests someone with varied musical inspiration. The result is a smorgasbord of collaborations that makes the inside of Todd Rundgren's head seem like some kind of insane fairground run by the characters from the film 'Labyrinth'.

Complex bass lines underlay the synthesised airy reverb of *Puzzle* and *Head In The Ocean*, broken up by the four-minute funhouse trip that is *Your Fandango*. Weezer's Rivers Cuomo guests on buoyant ska track *Down With The Ship*, followed by yacht-rock sugar rush *Godiva Girl*. Cheap Trick guitarist Rick Nielsen helps Rundgren blow off some steam during *STFU*, and Steve Vai closes the album, articulating his reverence for female mysticism through the medium of shredding.

Rundgren may be the only musician for whom a lack of any thematic coherency across a record doesn't result in disaster. 'Space Force' works', but don't ask me how. **Phoebe Flys**

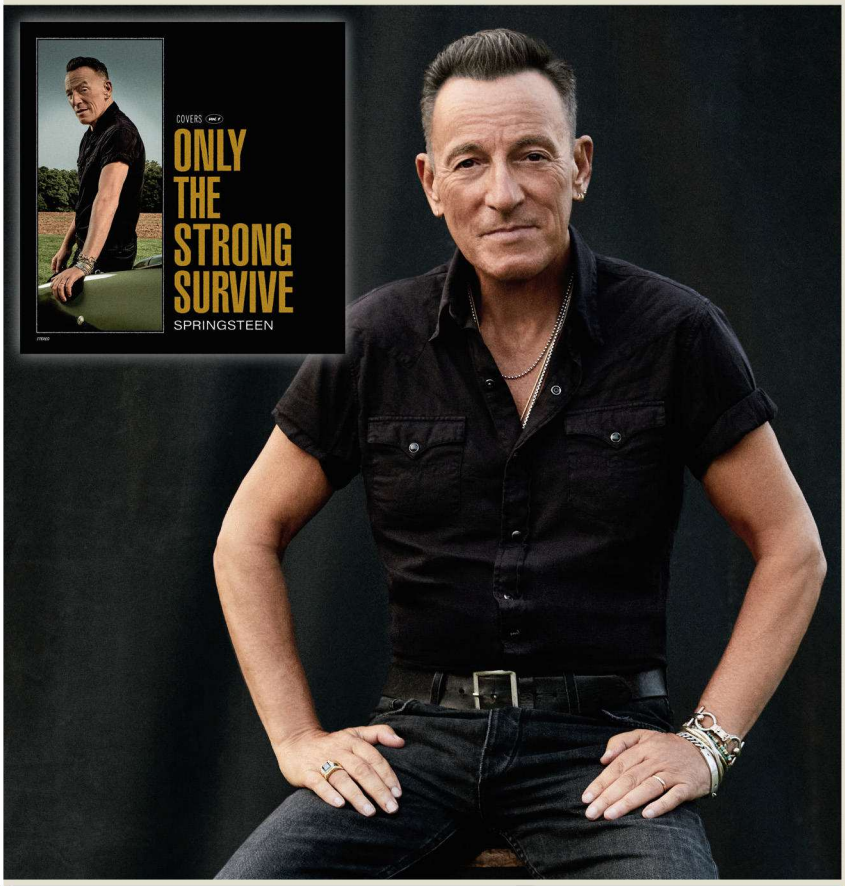
TUBULAR BELLS

50th Anniversary Celebration

Mike Oldfield not included.

It's not a bad idea to take another look at something as idiosyncratic and as popular as 'Tubular Bells', although Charles Hazlewood had the same idea back in 2011. Mike Oldfield's major work can certainly withstand this reworking by the Royal Philharmonic Orchestra, a gaggle of (shamefully uncredited) session musicians and actor Brian Blessed. (Throw in four more Oldfield pieces and, voila, a double album.) On the downside, it lacks Oldfield's guitar wizardry and sense of wonder, and where Vivian Stanshall was the original's perfect MC, Blessed is so far over the top it's a wonder he doesn't holler "Gordon's alive!" rather than "tubular bells!!" at the end of Part One.

Yet there's much to relish. The orchestra and Simon Dobson's bold arrangements add layers of depth to *Tubular Bells* itself, and while 'Britain's Got Talent' may have brought us singer Ella Shaw, she's almost as divine as Maggie Reilly singing *Moonlight Shadow*. **John Aizlewood**



BS_OTSS

BRUCE SPRINGSTEEN *Only The Strong Survive*

Cover me: Bruce cranks up his soul jukebox, with mixed results.

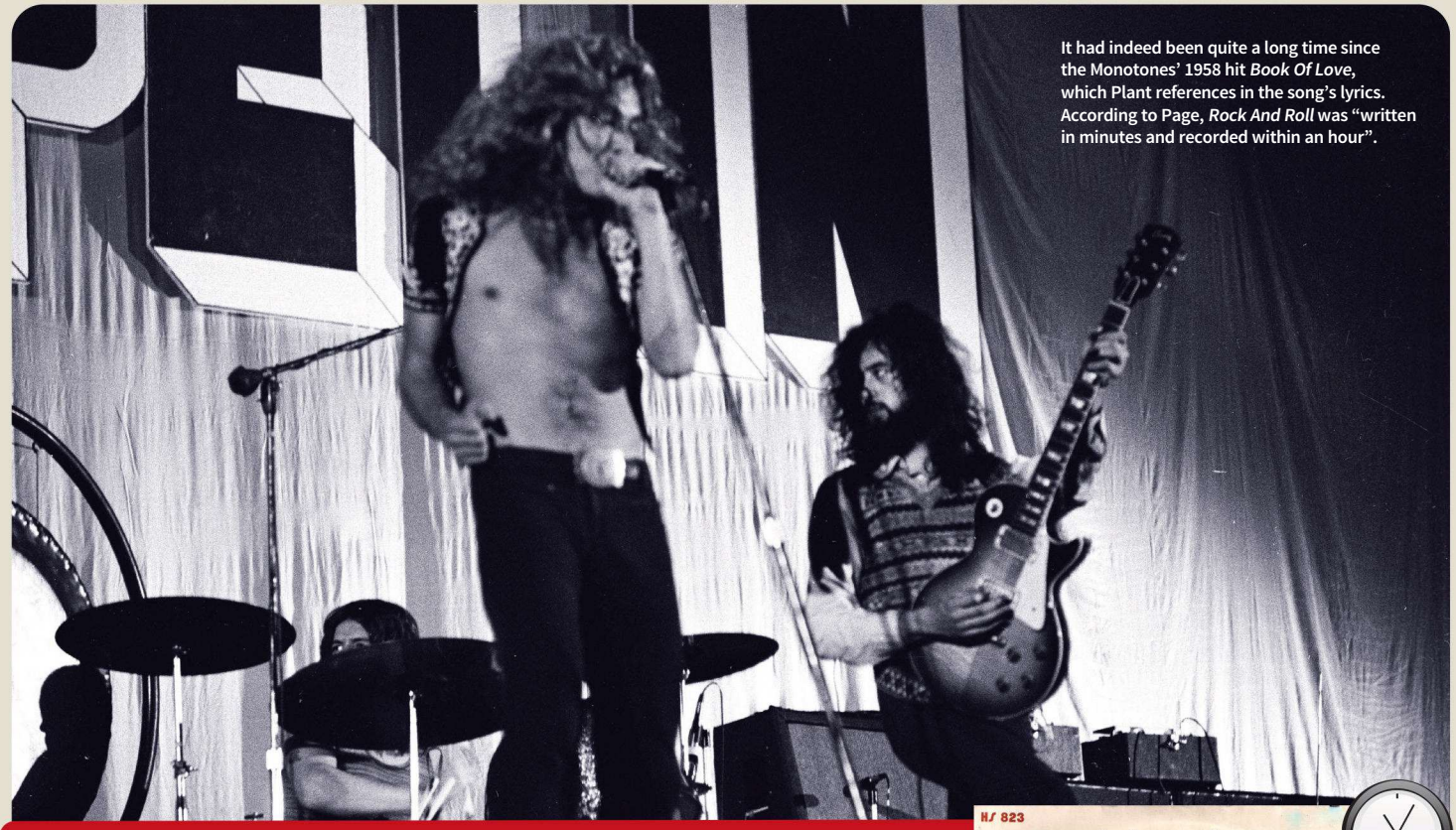
Springsteen has said he wanted to do an album where he "just sang", and to do justice to the great American songbook of the '60s and '70s. The book he's reading eulogises the soul classicism of Stax, Motown and Gamble-Huff, so this love letter to his youth stands in contrast to his only previous covers album, 2006's Pete Seeger tribute. Within the big, serious-faced picture of Bruce's significant career, it probably counts as a mere *divertissement*, a fun frolic. That said, it's feasible its coffee-shop tastefulness could fluke humongous sales in the manner of, say, Rod Stewart's karaoke sets.

Like most covers collections, it's hit-and-miss. Obviously Springsteen's having a great time, and loves the songs. Black music matters. And his musicians, including the E Street Horns and guest vocalist Sam Moore, cut it.

But does he bring anything new to these remarkable standards? Only his committed voice, which rises to the undeniable urgency of The Four Tops' *7 Rooms Of Gloom* and Frank Wilson's northern soul banger *Do I Love You (Indeed I Do)*. Yet sometimes his boom and gusto upset the delicate poise of a beauty like The Supremes' *Someday We'll Be Together*, which always transmitted its emotion with finely-honed understatement and allowed Diana Ross's quiet quivering ad libs to hint, not holler, about the hurt. Tackling an Aretha Franklin hit also has risks: on *Don't Play That Song* he wisely avoids competing, but ends up treading water. *What Becomes Of The Brokenhearted* replicates Jimmy Ruffin's original, conceding only a slight, respectful leeway for Bruce to decorate over its ending.

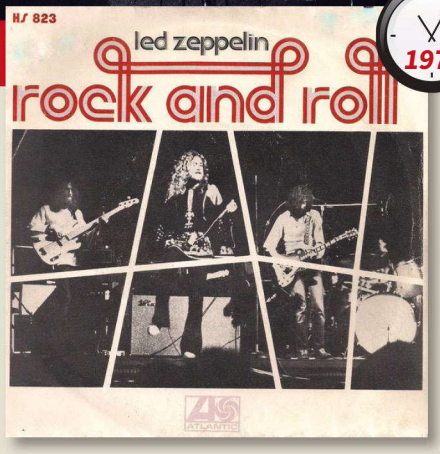
More Boss-like proprietorial presence can be found on The Temptations' *I Wish It Would Rain*, but even so it shows less strutting flair than the Faces' 1973 take. Similarly, his glide through The Commodores' *Nightshift* is perfectly pleasant but doesn't match the shuffling guile of Dexys' deft delivery of the song, which inhabited more than imitated. And what can you do with *The Sun Ain't Gonna Shine Anymore* that the Walker Brothers didn't already? Again, Springsteen seems unsure whether to stick or twist, to copy with due reverence or to try different inflections because one is expected to. He finds more traction with the Jerry Butler numbers, loosening his shackles on the title track.

There are many less rewarding experiences than hearing Springsteen thirstily sing his favourite songs, but there's a sense here that all concerned hope it would catch fire and amount to something more. *Chris Roberts*



It had indeed been quite a long time since the Monotones' 1958 hit *Book Of Love*, which Plant references in the song's lyrics. According to Page, *Rock And Roll* was "written in minutes and recorded within an hour".

CLASSIC TRACK: Led Zeppelin – *Rock And Roll*



Having demoed some of their new ideas for their fourth album at Island Records' Basing Street studio in Notting Hill Gate, in January 1971 Led Zeppelin returned for two weeks to Headley Grange, the crumbling stone structure in which they had first lived and worked the previous spring.

Sometime Rolling Stones piano player Ian Stewart and engineer Andy Johns arrived with the Stones' mobile recording studio loaded into a truck. Mic leads ran through the windows of the drawing room, its walls soundproofed with glued-on empty egg cartons. Stewart had brought his piano, and ended up adding his Johnnie Johnson 88-key style to a handful of works-in-progress, including what Jimmy Page would later describe as a "spontaneous combustion number" called *It's Been A Long Time* — soon to be retitled *Rock And Roll*.

As with so many of Zeppelin's best moments, *Rock And Roll* arrived out of thin air as the band were struggling with something else.

"All of a sudden, between a take, John Bonham started doing the opening of *Keep A-Knockin'* by Little Richard," recalled Page. "He did that, and where the band would come in I came in with the riff that you all know. Dead on, straight in — straight in!"

That drum intro confuses many with an apparent three beats extra before the entry. Put the three extra beats at the start, however (in the manner of Chuck Berry's *Johnny Be Good*), and it all makes sense.

Rock And Roll was, said Page, the sort of thing that could only have happened "all working together under those circumstances and having the freedom to be able to do that, not having to look at the clock, having the time to work on it when you really felt like you were connected to the work — never knowing quite what was round the corner".

Plant's lyrics, made up as he sang along, referenced The Diamonds, The Monotones and The Drifters as he sought to get a cohesive theme going, while elements of Page's guitar solo date back to *Train Kept A-Rollin'*. But you didn't need to know any of that to pick up on the retro yet futuristic feel of a number that looked back while clearly running forward in headlong fashion.

As such, *Rock And Roll* was the most obviously direct throw-down assault on the senses since *Whole Lotta Love*, and a solid-gold crowd pleaser that would become one of the highlights — often opener or encore — of all Zep live shows for the rest of their career.

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